FIRE ENGINEERING

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The Journal of the Fire Protection Profession Since 1877

JULY, 1949

Asphalt Tank Takes Off at Perth Amboy, N. J., Fire. Like Huge Rocket, It Rises Into the Billowing Smoke Above. Note Firemen at Lower Right, in Flight. (See Article Elsewhere in This Issue)

A CASE - SHEPPERD - MANN PUBLICATION

Are You Ready

for the Summertime

WITH THE MOST EFFECTIVE ARTIFICIAL RESPIRATION KNOWN TO SCIENCE?

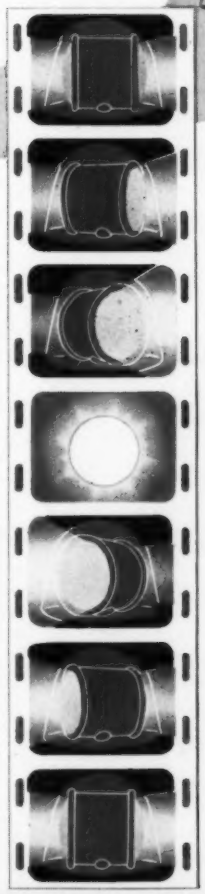
Drowning is fatal to many thousands of children and adults every year. But you can be prepared.

In asphyxial accidents speed is of life-and-death importance. The simplicity of operation of your EMERSON RESUSCITATOR is vital for this reason.

Artificial respiration should be started *instantly* by some means—manually, if necessary, until a resuscitator is ready. But medical research shows that a modern resuscitator quickly applied is the *most effective life-saving* procedure.

Please have your representative demonstrate the *"Simplest and Safest"*
Emerson Resuscitator ..... ☐
Please send us additional information ..... ☐
Name ..... **Title** .....
Address .....
.....

J. H. EMERSON CO.
22 Cottage Park Avenue, Cambridge 40, Mass.



Your Beacon Ray Light is your badge of authority in any emergency, on the way or at-the-scene.

Don't be content with ordinary warning light protection, danger may lurk at any point of the compass. Protect all-the-way with Beacon Ray.

Only Beacon Ray gives all-around 360° protection, not just front end or front and rear protection, but *full 360°* front *sides* and rear.

Reliable, longer lasting, due to superior design which has eliminated oscillating parts. Totally enclosed from weather influences—seals working parts from sleet, snow, rain, dust and mud. All moving parts of Beacon Ray are *inside.*

Specify **Beacon Ray Light and Federal Coaster Sirens on all *NEW* Apparatus!**

FEDERAL ENTERPRISES, INC.

formerly: FEDERAL ELECTRIC COMPANY, INC.

8702 SOUTH STATE STREET CHICAGO 19, ILLINOIS

FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING, THE FIRE ENGINEER, FIRE PROTECTION *and* FIRE SERVICE

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FRED SHEPPERD
Editor

ROI B. WOOLLEY
Assistant Editor

Summer Conferences —and Some Aren't!

IT'S conference and convention time for the fire service. From coast to coast the cognoscenti are conclaving to chew the fat, bat the breeze and in general gather information, coats of sunburn—and headaches.

- FIRE ENGINEERING is well represented at these conferences and councils. On the speaker's platform the "sounder-offers" quote chapter and verse from it. In the committee room huddles FIRE ENGINEERING provides the necessary source data on the "Report on the Hazards of the Whoozis and the Whatzis." In the Exhibit Halls, advertisers of fire equipment apparatus proudly flaunt their announcements in FIRE ENGINEERING. "If you see it in FIRE ENGINEERING," they say, "it's got to be good!" At Registration Desks; in Lobbies and Banquet Halls; in Courtyards and Corridors, FIRE ENGINEERING is on every hand, and everybody's tongue — referred to, quoted and counted upon by the conference confrères!
- There may be better testimony to the "worthwhileness" of this engineering journal of the nation's great and growing fire service, but right now for the life of us, we can't think what it is!

The Publishers

FIRE ENGINEERING

The Journal of the Fire Profession since 1877; published on the fifteenth of each month by Case-Shepperd-Mann Publishing Corp., 24 West 40th St., New York 18, N. Y., also publishers of *Water Works Engineering, Sewage Works Engineering*, etc. ¶Subscription price: U. S., Latin America and Canada, $3.00 a year; Foreign, $4.00; Single copies, 35c. ¶Member of Audit Bureau of Circulations and Associated Business Papers, Inc. ¶Entered as second-class matter April 15, 1929, at the Post Office at New York, N. Y., under Act of March 3, 1879.

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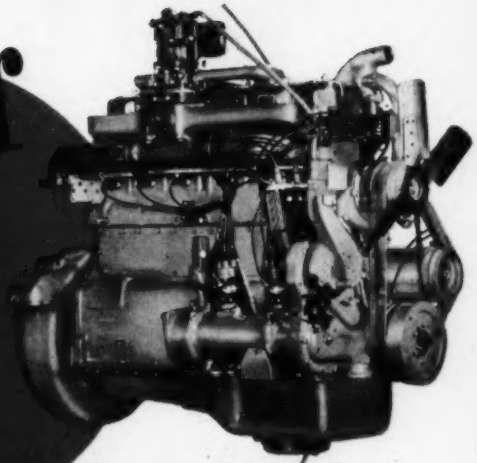
A CASE-SHEPPERD-MANN PUBLICATION
"Specialized Leadership"

Packed with Power FOR Fire-Fighting Service!



The Famous MACK THERMODYNE Engine

• Serving more than 1,000 communities from coast to coast, Mack apparatus is widely regarded as the finest in fire-fighting equipment. One powerful reason for its popularity is the famous Mack Thermodyne Engine—specifically designed by Mack engineers for fire-fighting service, built in Mack plants, and found only in Macks.*

Time-tested yet constantly improved, the Thermodyne is a six-cylinder engine for greatest simplicity of design and reliability of operation. Maximum utilization of fuel is obtained through the use of overhead-valves, twin-ignition, and the exclusive Mack combustion system. Its great power is delivered at relatively low engine speeds – resulting in less wear and strain, and easily mastered pumping and pulling demands. Thermodyne design and construction throughout explains why the expression "Built Like a Mack" typifies rugged strength and power.

Product of the greatest research, engineering and manufacturing facilities in the field, every Mack – in every detail – is built to be a leader. Wherever your department and whatever its needs, you'll be sure you've got the best when you *Modernize with Macks.*

*Standard in Mack models 505, 75, 85, 19, 95 and 125.

An all-around fire-fighter is this Mack Type 85 "Quad" recently delivered to Whitehall, Pa.

Mack

FIRE APPARATUS

Mack Manufacturing Corporation
FIRE APPARATUS DIVISION
Long Island City 1, N. Y.

Factory branches and dealers for parts and service in all principal cities. In Canada: Mack Trucks of Canada, Ltd.

The Original MIDWESTERN Yellow Striped Safety Coat Is Again Available . .

for Men of Action!

Here's Protection and Comfort in Your Hazardous Work of Safeguarding Life and Property Against FIRE!

Modern fire fighting calls for ***specialized*** protective clothing . . . clothing that safeguards the fireman's life on every run . . . clothing that enables him to use his equipment to the fullest advantage.

Every Midwestern product combines the thoughts and suggestions of practical Fire Chiefs and firemen from every section of the country . . . and every purchaser profits from years of Midwestern research and experience. That is why the famous Mackinaw Coat and other Midwestern clothing have embodied in their design every feature necessary for the protection and comfort of firemen.

In our vast selection of crude rubber materials you will find a type of fabric suitable for your climate and needs. The softness and flexibility in the high-grade materials used are your assurance of long time service and comfort. Many Fire Chiefs are now including Midwestern clothing in their regular yearly budget and, by placing your order early, you can be assured of this adequate protection when needed.

For complete information, have your Midwestern dealer show you our new garments now manufactured from crude rubber compounds. A letter to the factory will also bring you material samples for your inspection.

We now have available: White, Ivory and Brown crude rubber coats for Chiefs, Assistants and other officers; also all sizes short and ¾ length felt lined Firemen's boots for immediate shipment.

SOME GENUINE WITHOUT THIS TRADE MARK

MIDWESTERN MFG. CO., Mackinaw, Illinois

Manufacturers of the Famous **MACKINAW Coats**

Get better fog with B. F. Goodrich booster hose

New hose takes 800 pounds per square inch working pressure

IF YOU are now using fog at relatively low pressures, you can multiply its fire-fighting efficiency by taking advantage of the high pressures (up to 800 lbs.) that Fire King booster hose can handle. It takes the highest pressures of the new fog rigs, or of your present equipment, with maximum safety and easy-handling flexibility.

Strength under pressure — Will take working pressures up to 800 lbs. per square inch, with absolute safety. New high pressure couplings give a tighter, safer seal than expansion rings; and allow the coupling to be re-attached if the hose carcass is accidentally damaged. Fire King will not flatten on the reel, nor shorten under pressure. Bomb tests prove it will outwear any booster hose ever made. Sturdy cover of "fire-department red" stands up to abrasion.

Easy to handle — Fire King has the highest flexibility of any booster hose of its working pressure strength. You'll like the fine "feel" of this hose, the easy way it rolls on and off the reel. Its light weight lets you carry more hose on the reel — ¾" hose weighs only 40 lbs. per 100 ft.

For fog nozzles — Fire King is perfect for use with all types of fog nozzles. The 1" size is especially adapted for fire department fog nozzles now in use. Whatever your type of equipment, whatever pressure it puts out, Fire King will make the most of it in efficient stream distance and fog quality.

Before replacing your present booster hose, see Fire King. Hundreds of thousands of feet are now in service — over a year of actual field service has proved its value. Furnished in 50 ft. lengths in the ¾" and 1" sizes. See your local BFG distributor or write: *The B. F. Goodrich Company, Industrial and General Products Division, Akron, Ohio.*

B.F.Goodrich
FIRST IN RUBBER

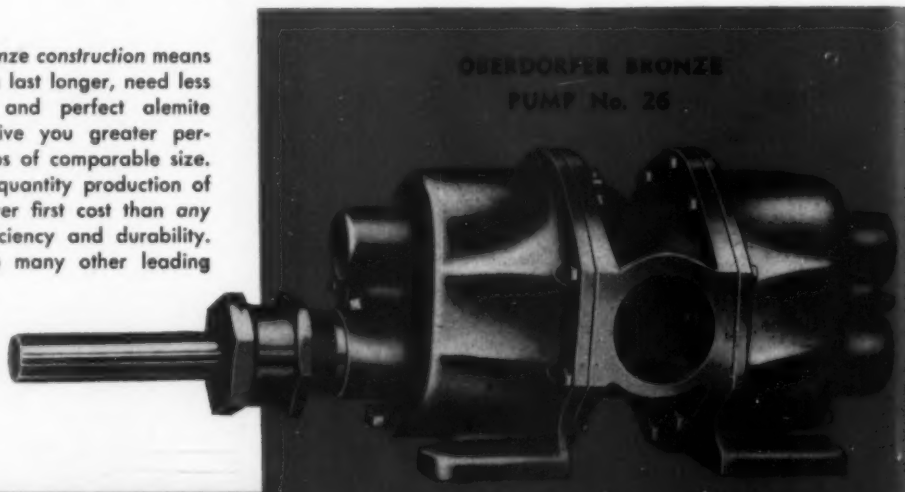
Leading fire departments standardize on

OBERDORFER

Booster Pumps

for efficiency, dependability and economy

Corrosion-resistant, *all-bronze construction* means Oberdorfer Booster Pumps last longer, need less service. Efficient design and perfect alemite lubrication mean they give you greater performance than most pumps of comparable size. Oberdorfer's tremendous quantity production of bronze pumps means lower first cost than *any other* make of equal efficiency and durability. Your department, like so many other leading departments, can save money and do a better job with Oberdorfer Booster Pumps. Write for complete details and name of your distributor.



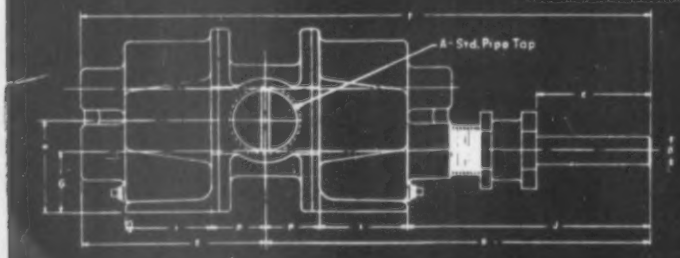
SPECIFICATIONS – Oberdorfer Bronze Fire Pump No. 26

DIMENSIONS

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2	1	4	13 1/16	6 11/64	19 3/16	2 1/8	3 1/4	2 31/32	8 1/32	6	6 1/2	7/16	2 1/2	1 3/8	1 53/64

PERFORMANCE DATA

Pump Shaft RPM	Pounds Pressure	Hose Length and Size	Dry Suction Lift in Feet	Vol. in Gal. Per Minute
1600	120	500'—1½"	15'	150



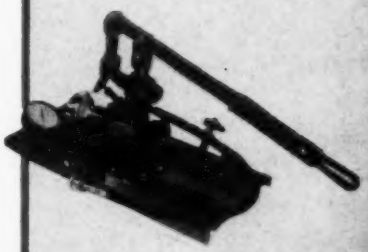
LIST PRICE $172.50
Slightly higher in price West of the Rocky Mountains.

For complete specifications of this and other Oberdorfer Fire Pumps and name of distributor, write—

Fire Pump Division **OBERDORFER FOUNDRIES, INC.** Syracuse 1, N. Y.

ALFCO OUTFITS THE FIRE DEPARTMENT

American-LaFrance-Foamite equips the fire-fighter from head to foot! The rugged, lightweight Armotop Helmet, accepted as the regulation style — and Alfco Waterproof Turnout Suits, Alfco Rubber Coats, Alfco Bunker and Storm King Fire Department Boots . . . form the working wardrobe of the modern fireman. And the tools of his trade are included in the complete line of Alfco fire department supplies — like the famed Protexall Gas Mask, the manually operated, hydrostatic Testall Pump, and the powerful Alfcolite Generator pictured here. Write us for fully illustrated literature, or consult your nearest Alfco representative.



AMERICAN-LAFRANCE-FOAMITE Corporation
ELMIRA · NEW YORK · U.S.A.

ALFCO
TRADE MARK

another first in... ADVANCED ENGINEERING

BARTON SUPER-FOG

standard equipment on all AMERICAN FIRE APPARATUS TRUCKS

Being first in the development of advanced engineered fire fighting equipment has always been our aim. We are now proud to present our latest development – Barton Super-fog. An entirely new development in fire fighting fog, resulting in superior fog streams and long range straight streams at *moderate pressures* from conventional fire engine pumps of rated capacities acceptable to the National Board of Fire Underwriters.

Barton Super-fog equipment is standard on all American Fire Apparatus trucks.

OTHER AMERICAN FIRE APPARATUS *FIRSTS* THAT ARE STANDARD EQUIPMENT

FLAT BOOSTER TANK WITH REAR FILLER
Results in perfect load distribution and convenient filling.

IMPROVED TANK OUTLET VALVE
Releases water complete to bottom of tank without air. Frost proof, quick acting and adjustable.

FROST PROOF DRAIN SYSTEM
Pump and all connections are drained quickly through special 6 port valve by use of one lever.

IMPROVED HOSE REEL
Electrically controlled for winding, leak proof, minimum friction loss.

Barton-American Fire Pumps Used Exclusively.

Write for additional information about Barton Super-fog and American Fire Apparatus trucks, or let our established sales representative call and assist you with your fire fighting problems.

AMERICAN FIRE APPARATUS

BATTLE CREEK, MICHIGAN

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Motorola meets the challenge!
announces the new "RESEARCH LINE"
solves the ADJACENT CHANNEL problem

"8" ESSENTIAL INVENTIONS make ADJACENT CHANNEL OPERATIONS PRACTICABLE

- SENSICON circuit (Pat. Pending)
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- STATOMIC oscillator (Pat. Pending)
- PERMAKAY filter (Pat. Pending)
- BRIDGE BALANCED CRYSTAL OVEN (Pat. Pending)
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- DIFFERENTIAL SQUELCH (U.S. Pat. 2,343,115)
- I.D.C. slope filter (Pat. Pending)

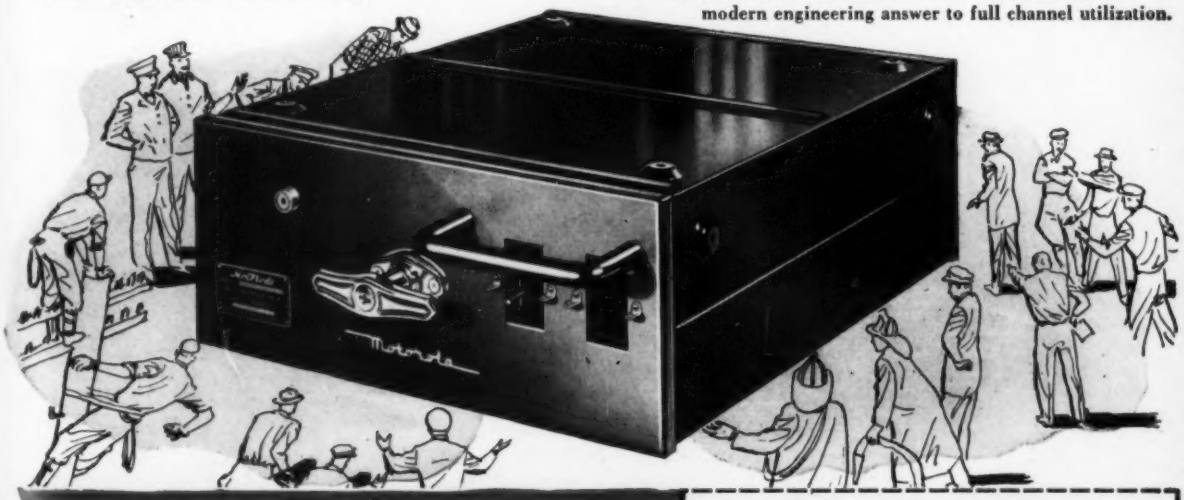
DESIGN—Today! The ideal two-way mobile radio communications equipment is here.

Research experimentation, development and field testing in systems operation produced this scientific answer to the adjacent channel operations problem.

The minor problem of super-precision selectivity was solved in six months, but two years of research and the creation of five major inventions were required to solve the major problem of intermodulation before same-area adjacent channel operation became practicable.

PERFORMANCE—Here is equipment that is new all through, with the amazing circuits which provide a new standard of performance for the industry. Here is equipment to give you the most modern communications system you can own—actually anticipating the standards of good engineering practice for the future. This startling departure from the conventional offering new simplicity of maintenance and a new standard of reliability—this engineering and scientific achievement is the new MOTOROLA.

Remember! Selectivity alone is not the answer to adjacent channel operation. The integrated systems combination of these new inventions is the modern engineering answer to full channel utilization.



the BEST is now BETTER than ever before . . .

Motorola FM 2-WAY RADIO

COMPARE feature for feature with any other equipment on the market . . . GET THE COMPLETE STORY . . . MAIL THIS COUPON TODAY . . .

MOTOROLA, INC., 4545 Augusta Blvd., Chicago, III.
Communications Division

Name_____

Position_____

Firm_____

Address_____

City_____ Zone____ State____

Dept. FE-Jul

SPRINKLER SUPERVISORY and WATERFLOW ALARM SERVICE

The remarkable effectiveness of automatic sprinkler systems in minimizing fire losses depends on two important factors: (a) an adequate supply and distribution of water at all times; (b) immediate summoning of fire-fighting forces when the system operates.

These conditions are best assured by means of ADT Central Station Sprinkler Supervisory and Waterflow Alarm Service which maintains constant automatic supervision of shut-off valves and all other components of the sprinkler system controlling the water supply and its distribution.

With this service, the sprinkler equipment functions also as an automatic fire alarm system. When water flows from the sprinkler system an alarm is automatically transmitted to the ADT Central Station to summon the fire department or other protective forces.

Write for details on how ADT Services may be applied to provide better protection at less cost.

In addition to the prompt and efficient handling of alarms, ADT Service includes the following fundamental features, without which there is little assurance that any protective signaling system will function properly when an emergency arises:

• CONTINUOUS SUPERVISION • REGULAR TESTS and INSPECTIONS • COMPLETE MAINTENANCE

✓ #2 in a series presenting the principal ADT Services for the protection of life and property.

Automatic Fire Detection and Alarm Service

Sprinkler Supervisory and Waterflow Alarm Service

Burglar Alarm Service

Industrial Process Supervisory Service

Heating System Supervisory Service

Automatic Smoke Detection and Alarm Service

Holdup Alarm Service

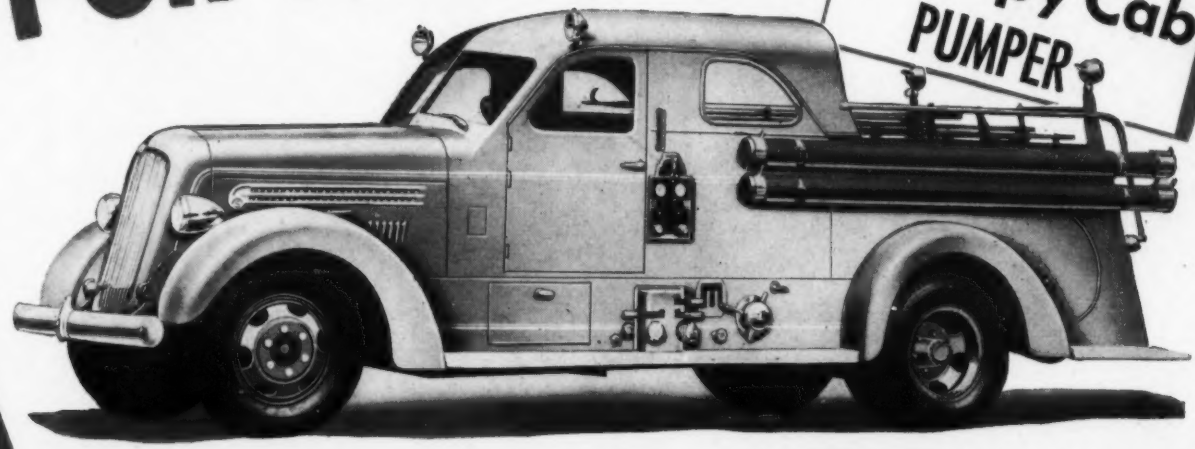
Watchman's Reporting Service

Manual Fire Alarm Service

ADT

AMERICAN DISTRICT TELEGRAPH CO.
155 SIXTH AVENUE NEW YORK 13, N. Y.
Central Station in All Principal Cities

MADE FOR THE JOB!



SEAGRAVE CANOPY CAB PUMPER for heavy duty fire fighting service. Powered with the famous Seagrave V-12 Motor and equipped with Seagrave Centrifugal Pump delivering from 750 to 1000 gallons of water per minute.

SEAGRAVE COMMERCIAL PUMPER —an efficient pumping engine built on the chassis of either a Ford, Chevrolet, International or Dodge. The pump is a Seagrave Centrifugal with a capacity up to 500 gallons per minute. Body and all equipment are the famous Seagrave construction. The Seagrave Commercial meets the demand for low cost and yet dependable fire protection.

The Seagrave Corporation
COLUMBUS, OHIO
Bickle-Seagrave, Ltd., Woodstock, Ont.

SEAGRAVE – THE GREATEST NAME IN FIRE APPARATUS

It will help if you will mention FIRE ENGINEERING *when writing advertisers*

SMOKEY SAYS:

"Hard Enamel is Worth the Difference in Price."

Badges decorated with hard enamel have a quality that shows. Hard enamel fills the recesses flush with the top of the metal. Then it is baked on, — a richer looking, permanent, gloss finish. The use of colored enamels will give your badges that extra smart look. Blackinton dealers can give you details.

V. H. Blackinton & CO., INC.
THE OLDEST NAME IN INSIGNIA
ESTABLISHED 1852
ATTLEBORO FALLS, MASSACHUSETTS

Please mention FIRE ENGINEERING *when writing advertisers*

This new Super John Bean High-Pressure Fog Fire Fighter, mounted on a five-ton chassis, carries a 600-gallon water tank, pumps 60 G.P.M. at 850 lbs. pressure.

ANNOUNCING
New SUPER Model

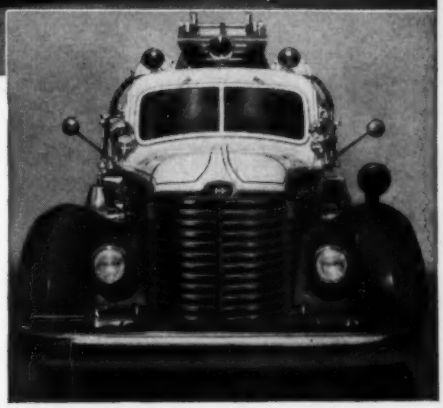
John BEAN HIGH-PRESSURE FOG FIRE FIGHTER

HERE'S a beautiful new model that makes fire fighting simpler, safer and more effective. With its many improvements and new accessories, the new Super Model John Bean High-Pressure Fog Fire Fighter is the last word in complete fire protection. Like all Bean Fog Fire Fighters, it will—

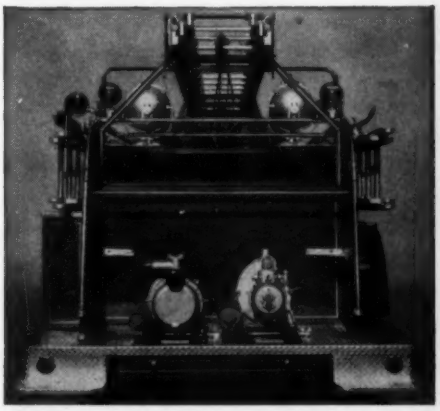
- Extinguish fires with practically no water damage
- Absorb heat instantaneously; out-absorb ordinary water 10 to 1 per gallon
- Clear the way through smoke and flames for gaining entrance
- Go into action immediately upon arrival

We deliver what we claim—true high pressure at all times. Less than that is ineffective and disastrous.

Write today for additional information about the new Super Model John Bean High-Pressure Fog Fire Fighter.



New warning lights are an added safety measure. New overhead ladders extend up to 45 feet. Two hose lines of 30 gallons per gun pump at 650-700 lbs. gun pressure.



Note new rear platform mounting of generator and portable pump, rear windshield, and new floodlight mounting.

BEAN *Original* **HIGH-PRESSURE FOG FIRE FIGHTER**

CAN BE MOUNTED ON MOST STANDARD TRUCK CHASSIS

FOOD MACHINERY AND CHEMICAL CORPORATION

JOHN BEAN DIVISION, DEPT. 126, LANSING 4, MICH. • JOHN BEAN DIVISION (WESTERN), 409 JULIAN ST., SAN JOSE, CALIF.

BUILDERS OF BEAN HIGH-PRESSURE PUMPS FOR OVER 60 YEARS

CUT DOWN DROWNING DEATHS

with E & J RESUSCITATION EQUIPMENT

This summer, be ready for even the most desperate drowning cases with modern, efficient resuscitation equipment. Before the swimming season gets into full swing, have your present equipment inspected by the E & J representative in your area. He is an expert on resuscitation equipment and techniques, and will be glad to talk to you about your rescue work.

Should you need additional or more modern equipment, your E & J man will demonstrate the latest E & J Resuscitator, with no obligation to you.

If limited funds are preventing you from getting a needed E & J Resuscitator, ask about the popular E & J money-raising program—it has been successful from coast to coast.

Right now, while you're thinking of it, write a letter or card to E & J and say, "Send your man around"—or if you have a specific question, we'll be glad to answer it by mail. Also, yours for the asking is the fact-filled folder, *Saving Human Lives*. Start the ball rolling for a safer summer in your area by writing to E & J *today*. The full address is shown below.

E & J MANUFACTURING CO.

6116 SAN FERNANDO ROAD, GLENDALE 1, CALIF.

NEW CRASH RESCUE TRUCK THROWS 4800 GALLON-PER-MINUTE FogFOAM "Blizzard" ON AIRPLANE FIRES

In the photograph above, you see a "blizzard" of FogFOAM being discharged on a severe gasoline fire around a plane during a drill. A wide path for rescue operations was immediately created between the plane and crash truck.

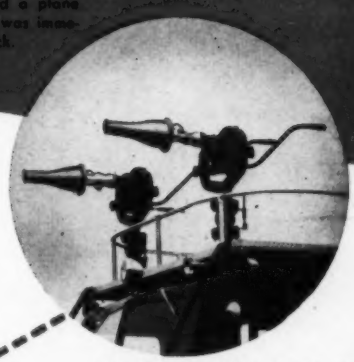
Passengers, whose lives might otherwise be lost, can now be rescued within seconds, in plane crashes at airports, by means of a new development — Rockwood FogFOAM.

Rockwood FogFOAM Systems for both new and old crash-rescue fire trucks have proved that they can knock out such fires — all in a matter of seconds. They will save lives that could not be saved with old style crash fire fighting equipment.

The Rockwood FogFOAM System is shown in action here on a remarkable new type of crash-rescue truck which is now in service in three of the world's leading airports, located in the New York area — LaGuardia, New International and Newark.

This truck embodies the requirements for crash-rescue operations by the management of these airports.

This latest truck was designed and built by Maxim Motor Company on a Walter four wheel drive chassis. The FogFOAM System for the truck was designed and manufactured by Rockwood Sprinkler Company. If you are planning a new crash-rescue truck or revamping an old one, specify a Rockwood FogFOAM System. Write for specifications.



Note how FogFOAM Screens on turret nozzles (bottom) can be quickly changed to Foam Shapers (top) which throw solid foam streams. Same nozzles will discharge WaterFOG.

ROCKWOOD SPRINKLER CO.
54 HARLOW ST. WORCESTER 5, MASS.
Specialists in Fire Prevention Engineering Equipment and Installation since 1907

GUARDING THE LIVES OF MILLIONS FROM COAST TO COAST

LEADERSHIP BRINGS IMITATORS

There is only one warning signal light that flashes a powerful figure "8" beam of red light—a mile ahead—from building line to building line and hundreds of feet in the air.

THERE ISN'T ANOTHER LIGHT LIKE

MARS SIGNAL LIGHT

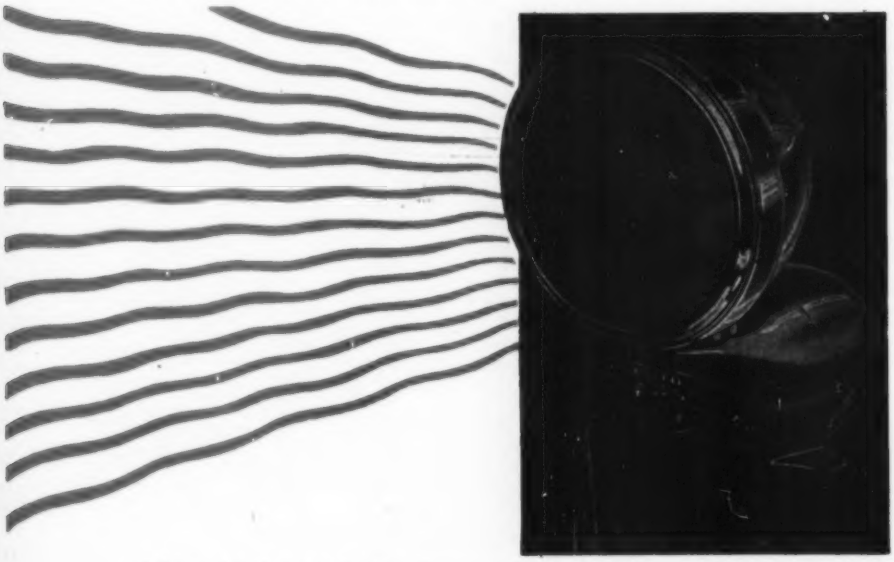
More than 12,000 MARS SIGNAL LIGHTS have been installed on the Fire Apparatus and Officer's Cars of over 300 cities and towns from Coast to Coast.

SO FAR AS WE KNOW ALL OF THEM ARE IN OPERATION AND ARE GIVING SATISFACTORY SERVICE

DON'T BE SATISFIED WITH AN IMITATION

INVEST IN A LIGHT THAT WILL LAST AS LONG AS YOUR APPARATUS

WHY BUY ANYTHING BUT THE BEST?



Mars Light Is Fully Guaranteed for Five Years
Mars Has Never Failed to Back Up This Guarantee and Never Will

WHEREVER SAFETY OF FIREMEN, APPARATUS AND THE PUBLIC IS THE FOREMOST CONSIDERATION YOU'LL FIND FIRE DEPARTMENTS USING AMERICA'S FOREMOST WARNING SIGNAL LIGHT

IMMEDIATE DELIVERY

MARS SIGNAL LIGHT CO. 5737 W. DIVISION ST. CHICAGO, ILL.

It's MARS from Coast to Coast

Insist on MARS when you order New Equipment
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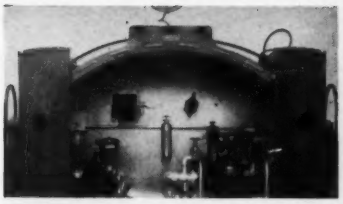

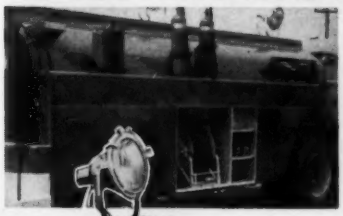

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Accessibility of PUBLIC FIRE ALARM BOXES Essential to Public Safety

These Newspaper Items Tell Why

THREE LIVES LOST

Aroused by Smoke, Neighbor Routs Residents from North High St. Apartment

Dialed Wrong Number

A man and two small children suffocated in a blaze which swept an apartment over the Dutch Cafe at 980½ N. High-st shortly after midnight.

It was discovered by Mr. and Mrs. George T. Collins, who lived across the hall.

Mr. Collins said he ran up and down the hallways of the second and third floors, routing 25 other residents. The burned apartment was on the third floor.

"I ran to a phone and tried to call the fire department," Mr. Collins told reporters. "But I was excited and apparently dialed the wrong number."

GAMEWELL
FIRE ALARM BOX

A fire tragedy averted

A woman set fire to the drapes in an eighth-floor room of the Ansley hotel Tuesday night, causing 14 pieces of fire-fighting apparatus to be rushed to the building, Radio Patrolmen R. E. Nickerson and Roy Fleming said Wednesday. Police charged her with being demented.

Considerable damage was done to the walls of the room, the officers said.

The officers praised the fire department for its quick response to the alarm. Three aerial ladders, six pump trucks, one light truck, a rescue squad, and three fire department superior officers answered the call.

The alarm was turned in by an unknown passer-by, who saw flames in the hotel room on the eighth floor and pulled a fire alarm box at the corner of Forsyth and Luckie sts.

—From Atlanta Journal

Time — the Vital Element

Time lost in sending alarms may result in loss of human life and great property values. The above extract from the Columbus, Ohio Citizen account of a fire in which 3 persons lost their lives is a striking instance.

Many similar instances of fires checked in their incipiency and serious losses averted by the prompt use of public fire alarm boxes occur daily but, the actual losses being trivial, such cases rarely receive publicity.

THE PUBLIC FIRE ALARM BOX —
REMAINS THE FIRST LINE OF
DEFENSE AGAINST FIRE

Statistics show that few, if any, cities have enough of them.
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FIRE ENGINEERING

JULY, 1948 VOL. 102, NO. 7

With the Editor

Hospital Safety

It is encouraging that the tragic St. Anthony's Hospital fire in Effingham, Ill., described in detail in the May issue of this journal, has focussed so much attention on the need for overhauling and re-evaluating outmoded fire safety laws for such occupancies.

In the hearings and discussions that followed this disaster, however, one point in particular appears to have been given only minor consideration. We refer to the absence of male attendants and other male staff personnel at the time of the emergency, to (1) locate and attack the fire in its incipient stage and (2) to move or evacuate the patients, many of them non-ambulatory.

No one can question either the courage or willingness of the members of the St. Anthony staff on duty that fatal night. Individually, they tried to do their duty as they saw it. The casualty list proves that point. But here was a hospital of 122 beds, according to AMA records, with 108 patients and others including visitors and some private nurses, in the building, and not a single adult male attendant awake and on duty. Further, there was no automatic fire detection and extinguishing system; there was no watchman, no patrol other than the Sisters in charge of their respective areas. When the fire was discovered, belatedly, it was necessary to awaken the engineer in order to get a man to go into action. He did his best—and died in the doing. One other sleeping male staff attendant, according to reports, when awakened also did his best.

This situation is not peculiar to St. Anthony's. It is all too common in both old, combustible hospitals, as well as in those having more modern fire-resistant type structures which might, in some cases be excused for holding the night staff to a minimum.

Some hospitals and other institutions have found one answer to the problem by employing experienced retired firemen, the number of course depending upon the size and nature of the institution and the hazards involved. It seems to us that this is not only a good thing for the institution, but for members of the fire service who following retirement, may still have many long years of useful service ahead of them.

QED—Where's The Fire Service?

In a release dated June 16, 1949, the National Board of Fire Underwriters announced that "representatives of nineteen national and regional organizations met in New York yesterday to make organizational plans for the fire safety inspections of more than 6,000 hospitals . . ."

It is estimated, the release says, that the inspections will cover some 6,000 hospitals in the United States, "including state, city, and privately-owned and voluntary hospitals of all kinds." The plan is to have inspections made by "trained fire prevention and safety engineers" from the inspection and engineering bureaus of the National Board "and all other organizations in both fire and casualty insurance business, with the aid of specially qualified field men of the individual (insurance) companies."

There was no representative of the fire service present at the meeting, nor is any on the Committee.

Perhaps we're off the beam, but inspections of whatever nature, to better safeguard private, public and religious hospitals and kindred institutions against fire might advisedly include qualified representatives of the nation's fire service, both on the national and local level. Or is it to be left to the fire chiefs to work out their own inspections sans cooperation with the insurance field and others listed as cooperating agencies?

Fred Shepperd

Adequate Lighting Speeds Up and Safeguards Fire Attack

Now Recognized as a Prime Essential in Efficient Fire Control

By ROI B. WOOLLEY

Author's Note: Strangely enough, the broad subject of the use of light and power in fighting fire and as an adjunct to the fire department seems to have received but little attention. The histories of the fire service make little or no reference to artificial illumination, and to lighting equipment. Outside the editorial and advertising pages of this Journal the subject has received only the sketchiest publicity. It has had vicarious consideration by a few fire service associations and groups but even today the subject is seldom encountered in the curriculum of the fire college and drill school.

This dearth of information, emphasized by growing importance of effective illumination of the fire area and the increasing use of power by the fire fighter and rescuer, has prompted this study. Of necessity it is condensed, the emphasis being placed on tools of today and tomorrow rather than the romantic yesterdays.

In offering it, the author extends grateful appreciation for their valuable assistance to Emery A. Greunke, Chief of the Appleton, Wis., Fire Department; Peter Pirsch & Sons Co.; Homelite Corporation; Kohler Company; General Electric Company, and a large list of individual students of fire protection too numerous to list here.

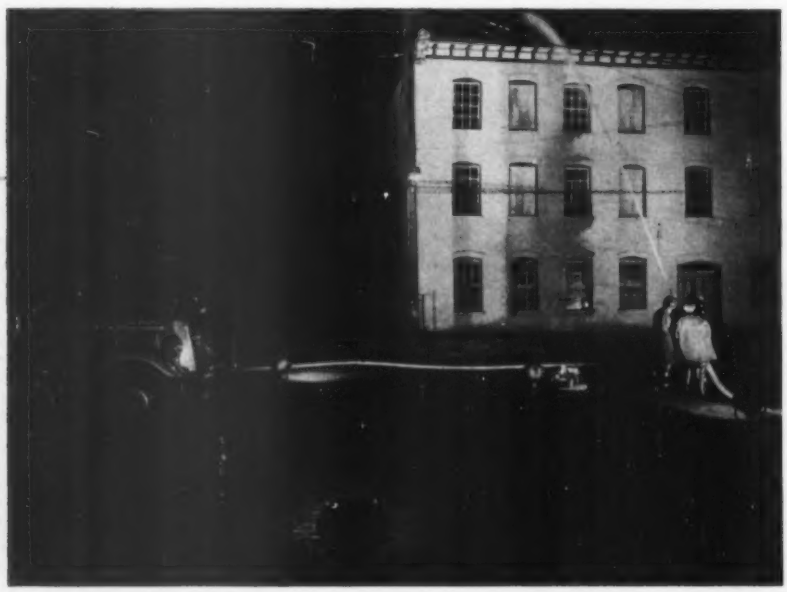
IT is generally agreed among progressive fire control students that the problem of combating fires is today far more complicated and acute than it ever was in the "good old days" of the fire service. There are more fires; more unusual fires; more fires having explosive and conflagration possibilities or tendencies than ever, and the number and complexity of serious fires continue to multiply yearly.

The fire service is concerned with the development of its facilities of men, materials and methods to meet these changing conditions and increasing hazards.

If the fire service is to master this problem, or at least keep abreast of it, there must be continual and progressive revision of its methods of attack, utilizing *all* the available modern facilities at its beck and call. Yesterday's methods won't do for today—or tomorrow.

The Need of Illumination in Fire Fighting

A large proportion of the nation's fires occur during the night and more serious fires occur between dusk and dawn than in any other time of the day.



Modern Portable Light Plants Speed and Safeguard Firemen's Work
Four powerful floodlights, operating off a single, compact, portable generator (Homelite) illuminate fire building and attack operations.

It is a further fact that more firemen are injured in night fire fighting operations than during any other period.

The fact that the period of darkness is the critical time for the fire fighter as well as the public is borne out by the insistence of the underwriters that fire companies be manned to the maximum during these after-dark periods and also that although some cities may reduce initial response of companies and units during daylight hours, the full assignment schedule should be followed after dark.

It is well to bear in mind also, that even in the daytime, artificial illumination is essential at many building fires. Fires in basements, attics, vaults, warehouses, mercantile and industrial structures with modernistic unbroken walls —to name just a few—may, and often do, require interior illumination for the fire fighter during daytime as well as nighttime operations.

Fires may not actually be worse in the night, but they always *seem* to be worse and that goes for the viewpoint of the firemen as well as of civilians. Darkness increases fear and encourages confusion and panic among the civilian population, if not within the ranks of fire fighters. Every fireman knows it takes more courage to climb ladders, and advance hose lines into blacked-out structures, where the only light may be that of the fire itself, in order to fight a nighttime fire, than to make the same sort of attack in daytime. Lights, therefore, and the more of it the better—is an essential to modern scientific fire fighting.

Firemen are aware also, that much as they may know a building and its contents, they cannot rely upon the structure's lighting system. During a fire the system may go out at the most inopportune moment. Some lighting systems, in fact, are the direct cause of building fires and are inoperative when firemen arrive. Therefore, just as they place little reliance on the building standpipe hose lines, wary fire fighters prefer to rely upon their own lighting facilities in every building fire. And, as we shall see, science has made it easy for the modern fireman to do this.

Historical Background

There was no serious attempt to light either the fire building or the fire ground before volunteer firemen adopted the hand lantern. Prior to that the sole illumination was provided by the fire itself, or by crude torches or flares. The latter however, found most favor as decorative elements for volunteer firemen's parades.

Lanterns were known back in the days of Pompeii and Herculaneum but there is no evidence to indicate that the

Adequate Illumination Is Essential in Overhauling

Here firemen, in New York's Bronx, pull ceilings under artificial illumination during a stubborn blaze that swept through ten stores at 161st Street and Gerard Avenue. This period of fire attack produces a high percentage of injuries to firemen. Good lighting helps hold injuries to a minimum. Note: Many a re-kindle, the bane of all fire officers has been caused by inability to locate and extinguish the last remaining "hot spot" because of inadequate lighting.

early Roman firemen carried or used them. Earliest lanterns had horn or other translucent sides. As glass grew cheaper it gradually ousted all other materials. By the end of the 18th century, hanging lanterns had been superseded by the candlestick. Some early firemen—or perhaps members of the "rattle watch," utilized lanterns. Later, when optical glass was developed and wick lamps could be focussed and magnified there was developed the bulls-eye lantern which police employed. Efforts to use this lamp in the fire service were unsatisfactory and firemen relied on the whale-oil and coal-oil wick, hand type, which at best gave very little illumination.

Before the electric searchlight came into wide use in the fire service, fire departments relied on the old carbide type with the steel canister and removable flat reflector for general area lighting. The stories of the vicissitudes of this type of lighting unit for interior and exterior illumination of the fire scene are many and legion. Notwithstanding its idiosyncrasies and hazards, carbide canister lights found wide acceptance and are still employed in some departments. It is said, the New York Fire Patrol still employs them, particularly for overhauling operations. They are unaffected by water spraying over them but compared with the modern electric spot and floodlights are largely relics of the horse drawn apparatus era.

There have been a number of so-called "portable" light units intended for the fire service. None, however, was very effective until the advent of the light, compact, power and light plant, devised by an American manufacture. Until then city firemen ingeniously made good use of weather-proofed light cord to tap service connections either at the nearest street lamp post or in some structure adjoining the fire building. The idea, however, failed to be received enthusiastically by the householder who was called upon to permit his lighting circuits to be so tapped.

The first flashlight was developed around the turn of the century, and found ready favor with firemen, despite its weight and cumbersomeness. Steadily through the years, battery lamps of all types have improved in effectiveness. The latest adaptation of such lamps is for lighting the tips of aerial ladders and, when operated from the aerial, to illuminate windows into which the ladder is to be placed. Today nearly all firemen carry their own flashlights as regular equipment. The majority of fire chiefs also carry powerful electric hand lamps or searchlights.

New York's fire department was the first to have an exclusive "searchlight" apparatus. It was the idea of Edward F. Croker, then chief of the department, and came about as a result of the near death of two firemen at the Campbell wallpaper factory in East Twenty-ninth Street in 1899.

At that fire the smoke and steam rising from the lower windows of the burning structure kept the men in the street from seeing the peril of their fellow firemen caught on the window ledges of the upper stories of the building.

Chief Croker did a lot of thinking next day and then sent for electrical contractors and asked questions about searchlights. When the day was over he knew what he wanted. It was the searchlight engine—a fire engine that had a dynamo instead of a pump, and two searchlights mounted over the driver's seat, which threw shafts of light on the dark places of burning buildings at night.

Croker had this to say about his idea!*

"Searchlight engines are sometimes of great value. They are best made in the form of a small steam engine and are equipped with two powerful searchlights, so mounted as to give a wide range of direction, and supplied with light from the engine's own generators. These engines are usually light enough to be drawn by two horses. There are three of them in the New York fire department, and they have rendered important service on many occasions, in my experience. These pieces of apparatus are especially useful at large fires involving entire buildings, which have destroyed the lighting system within the structure and rendered some form of illumination necessary for the successful work of the firemen. Of course in many cases the lights from the streets prove sufficient, but when it is desirable to light up the entire front or side of a building, so that the firemen may see plainly to perform a delicate task, such as a rescue with scaling ladders or the ghastly work of lowering bodies, the powerful searchlights are extremely useful. Moreover, their beams may be so thrown that they will even shed a good deal of light within the biuldings themselves, and thus assist the firemen in their work."

Today, quite a large number of fire

*"Fire Prevention," by Edward F. Croker, Dodd Mead & Co., 1912.

In Situations Like This Good Lighting Is Essential to Good Attack

There may be people to be rescued in windows behind that smoke. The operations of men on ladders, fire escapes and roofs are fraught with enough danger at all times. But at night, without benefit of light, it's inviting accidents without effective illumination. These Brooklyn firemen "take a feed" at a two-alarm apartment fire.

New York's Searchlight Unit "Makes Light" of a Night Fire

A multiple alarm fire on Madison Street, lower Manhattan, is subdued by heavy streams directed in the brilliant illumination of the department's modern searchlight rig. The floodlights are removable. In addition, nearly all New York City ladder trucks carry portable generators. Note how the illumination aids the fireman to locate tools on ladder unit at right.

Appleton "Lights the Way" to Safer, More Efficient Ladder Work

Demonstration of modern, metal aerial ladder and powerful, smoke penetrating floodlighting by the Appleton, Wis., Fire Department. If this six-story hotel was really afire, the guests in the windows would all be picked off by the rescuers. just as the two 500-watt "floods" pick them out in their bright rays.

departments operate searchlight trucks, and these are augmented by a rapidly growing number of powerful but portable light generators, which make every rescue, ladder, pumper and other fire vehicle as desired, a mobile light (and power) plant. Today these units are standard equipment on practically all major fire fighting rigs.

This development is in keeping with the trend toward making every ladder truck a rsecue unit on the theory that rescue and firt-aid go hand in hand.

Naturally, some chiefs will not agree with this idea, but they will hardly question the wisdom of having a 1000 to 2000 watt generator with its 250 and 500 watt lights and its ability to supply power for numerous fire department jobs on at least some apparatus in every battalion or district. And when it comes to the volunteer department, where perhaps a single piece of apparatus constitutes the entire fire force, such equipment is a "must."

The argument has been advanced that with departments as shorthanded as they are, it requires all the men on a piece of apparatus to hook up, stretch in and get water on the fire, and that under normal response conditions no personnel can be spared to get a portable lighting unit into operation, in the opening stages of the attack at least. Proponents of this theory—and it is tenable—do not question the value or need of such equipment, but claim that to switch men from essential attack operations such as laddering the building and advancing hose lines to putting the light plant into play will defeat the very idea of fast attack, rather than facilitate it.

This is not the time or the place to debate the issue. It need only be said that where life is at stake at a night fire, or in any emergency where illumination is needed, getting the light plant to work may be even more important than some other attack operations.

It should be pointed out at this juncture that many departments have their light units so installed on the apparatus that by simply throwing a switch the light generator is started and its flood lamps are ready to illuminate that portion of the building or area at which the initial attack is waged. No extra personnel are required to accomplish this. Later, as light is needed on other sides or inside, men may be drawn from other companies to advance the individual floodlights. It may surprise some officers to know just how much area can be illuminated with 1500 watts and modern flood lamps with their improved lenses, both when the light set is operated from a fixed position on the apparatus, as well as when the generator is a portable unit. Actually, some fire chiefs who do employ this type of lighting equipment as an essential facility in speeding and safeguarding attack, contend that its use conserves manpower rather than wastes it.

How Light Helps in Fire Control Operations

Illumination of all kinds is essential in every phase of fire control and extinguishment. Some of its attributes have already been mentioned. It is essential in nighttime response of fire forces, but that is only the beginning. Its prime value is in furthering the attack—and rescue operations, and here we do not refer only to large scale, area illumination.

The battery-operated hand lamp and flashlight provide essential illumination for the individual firemen and rescue worker by insuring his footing, disclosing hidden pitfalls, openings, and obstacles, locating exists (many a fireman has blessed the flashlight for helping him find the way out of a smoky trap.) Notwithstanding its indispensability in this wise, and in making rescues, advancing lines, operating pumps and in countless other operations, too many firemen fail to provide themselves with such equipments; or perhaps it should be said, too many departments fail to provide this essential for their men. Many authorities advocate individual hand lights for men as well as effective area lighting by means of power units.

It was a husky flashlight in the hands of a patrolman on the street before the burning Canfield Hotel, in Dubuque, Ia., three years ago that helped hold the death toll to 19 persons. This light and a pair of strong lungs helped save many of the trapped by directing them how, where and when to drop into the only available life net.

The uses of the small but powerful electric flashlight and hand lamp are myriad. In a smaller way, they possess most of the attributes of the larger units plus their own adaptability.

SIZE-UP: Successful attack calls for swift, accurate size-up. This is impossible after dark without good illumination. Light, readily available from whatever source, helps locate the fire building, indicate its contents, details of construction, and the extent to which the fire has progressed; the degree of smoke and gases and locate persons awaiting rescue and evacuation. It picks out fire escapes, dividing walls, openings and vents, sprinkler, standpipe and other connections and helps provide the commanding officers with the information necessary to shape the attack strategy, to draw the right conclusions, and make the right decisions such as whether or not to call for additional help and so on.

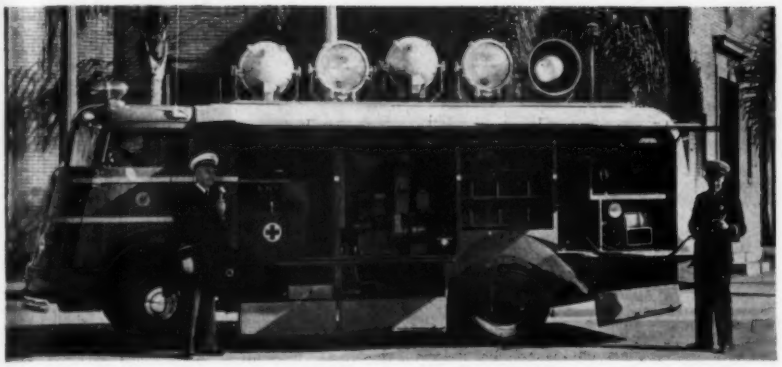
FORCIBLE ENTRY: Light helps locate tools and equipment on apparatus and get them into action in the opening attack where seconds count. It saves time and prevents injuries to personnel in opening up, breaking windows, deadlights and ventilators, and in advancing lines. It saves needless destruction of property.

SPEEDS AND SAFEGUARDS ATTACK: Light has many and varied uses in fire fighting operations besides size-up-and forcible entry. It helps locate interior and exterior hazards; entrance and exit facilities (helps fire fighters find the necessary secondary emergency exit as recommended by good practice). It is a vital aid in ventilation; directing hose streams, particularly from street and ladder pipes, turret guns and in roof operations (many a fireman on a fire escape, or roof, or pier has been injured by being struck by a high pressure stream because its operator could not see the victim). Illumination is essential in cutting floors and walls and ceilings; operating distributors and cellar pipes and, most important, in locating the heart of the stubborn fire, and getting to work on it.

OVERHAULING REQUIRES LIGHT: Good illumination prevents accidents to personnel in mopping up, the final stage in fire control operations, in which many men are injured by falls through openings, by cuts on nails, glass, etc., and by being struck by falling debris. Ample light saves needless property damage and helps guard against re-kindle and pilfering or thievery.

ESSENTIAL IN DISASTERS: Emergency lighting is essential in all kinds of disasters besides fires such as flood, hurricane, earthquake, wrecks of different kinds and riots.

The modern engine-driven electric generator is ready to quickly overcome



Pasadena's Rescue Unit Has Two Light Plants—Plus

This Pasadena Fire Department rescue unit has two 2½ KW light plants (Kohler) in compartments to provide current for four 750-watt floodlights, one 750-watt spotlight and two 200-watt portable lights. Four reels carry 300 feet of cable for inside lights. In addition, there is a PA system, two-way radio, smoke unit, and 148 other pieces of equipment. Lights and amplifier are raised hydraulically above roof of machine.

unexpected blackout of the municipal lighting system. Its emergency power can be used to provide essential current for home, hospital or public building, in addition to supplying electricity for floodlighting whole areas.

The modern compact A.C. generator can be used to operate portable radio receivers and transmitters. It will provide power as well for public address and phonograph pickup systems—in fact, many fire departments use these systems on the training ground and drill tower.

PORTABLE GENERATORS CAN PROVIDE POWER AS WELL: Besides light for forcible entry and other fire department operations, the modern engine-driven generator will save labor and time by operating electric saws, drills, hammers and other electric tools. A number of appliances can be operated at one time from a single generator.

THE MODERN PORTABLE LIGHT AND POWER PLANT: There are a number of compact, portable light and power units manufactured in this country, available to the fire service. There are also larger plants for fixed installation, such as stand-by operation of fire alarm systems and the like. In recent years these units have reached a high degree of efficiency, simplicity and dependability.

These units are made in a number of sizes, weights and capacities ranging from the little 500-watt unit weighing about 60 lbs. to the 3,000-watters of between 130 and 150 lbs, 110 or 120 volts. They are furnished for either AC or DC generation, with or without floodlights, cord and connectors.

These versatile plants are easy to start, simple to operate and require little fuel. They will not freeze or overheat and the modern types are weatherproof, waterproof and dustproof. There are no controls, switches or rheostats to manipulate and the voltage is maintained automatically.

As has been said, by mounting these portable generators and floodlights in certain ways on fire apparatus, the vehicles can be operated as mobile light trucks or self-contained searchlight units. The mountings can be such that, should it be desired, the generator can be quickly removed from the vehicle and operated as an independent portable unit as the lights and mountings can be removed and the power plant "fixed."

A number of ingenious mountings have been developed by different fire departments to provide instant floodlighting and spotlighting, utilizing the apparatus itself and to permit easy removal of the generator and the lamps and cords, should independent operation be desired.

We have said that more lives are lost from night fires than from those occurring during daylight. Certainly the record of large scale disasters indicates that the majority of fatal catastrophies happened after dark when rescue and attack operations by the fire departments had to be made under most unfavorable conditions. The three recent fatal hotel fires, LaSalle, Canfield and Winecoff, for example, emphasize the importance of plenty of illumination, both outside and inside the structure involved, particularly in the early stages of the fire.

Since those fires, the Chicago Fire Department, long a believer in equipping its apparatus with all possible lighting facilities, has increased the number of its squad units, each of which carries a portable generator and floodlamps, notwithstanding the fact that it had, and has, several self-contained light trucks. The Atlanta Fire Department which at the time of the Winecoff fire is reported to have had but a single light truck, last year installed a unit designed and built by Bob Zachry, the department's Master Mechanic, which has a number of interesting features.

Appleton Speeds Night Attack

Fire Chief Emmery A. Greunke of the Appleton, Wis., Fire Department, like many other fire officers, long realized the importance of effective laddering of buildings, particularly where rescue operations were involved. Like many others, no doubt, he thought at length how he could overcome the handicap of spotting and placing aerial and other ladders in the dark or where the street illumination (never bright enough for good fire fighting) was obscured by smoke. And like Chief Croker, he determined to do something about it.

The outcome is an arrangement which eminently satisfied Chief Greunke and his men and which he believes would work out well for other departments which, for one reason or another, cannot maintain trucks devoted solely to generating power.

A light generator is mounted on the department's 85 ft. metal aerial ladder truck. It is a 1.5-2.0 Kw, 110 volt DC unit, with 1,000-2,800 RPM (generator RPM), shunt wound. The generator itself is built smaller in diameter than the usual conventional machines of the same rating. This was to facilitate the mounting on the ladder truck. The generator has drip-proof construction.

A switch in the shunt field circuit is used to open the circuit when the truck is traveling at a fast speed, because at this time the generator speed is higher than rated speed and would be out of

Photo Courtesy "Kohler News"

Light Helped to Reduce Loss of Life at the Hotel LaSalle Fire

Two powerful floodlight trucks were used by the Chicago Fire Department to facilitate rescue and fire control operations at the Hotel LaSalle holocaust, where 58 persons lost their lives in 1946. Note how building was laddered and how lights from truck at left turned night into day. These light units were stationed on the LaSalle and Madison Street sides. The plants generated power to operate the several 1,000 watt floodlights; in addition, 50, 75 and 100-watt spotlights on extension cords were carried into the hotel for close-up fire fighting. The department has had several such units since 1928.

control of the regulator. This switch is located on the dash. While the truck is traveling there is no need for any generator output.

The truck is powered by a 240 HP Waukesha motor. There is a three-sheave pulley on the motor and a two-sheave pulley on the generator. The one on the motor has an 8 5/16 in. diameter, and that on the generator is 4 in. diameter. Two belts drive the radiator fan and the 110 volt generator and the third belt drives the 12 volt generator for the truck's battery. It takes from two to three motor HP to drive the 110 volt generator.

Mounted on the truck itself are two 500-watt floodlights. They are swiveled and are ready for immediate use. They can be removed from the apparatus if desired, and operated on portable stands. There are also receptacles (110 volt) on each side of the truck for additional connections to operate lights, electric tools, such as drills, saws, etc.

The voltage regulator takes care of the generator when raising or lowering the ladder and when operating the booster pump with which the truck is equipped, up to the capacity of the regulator. It will be noted that the ratio of the two sheaves, previously mentioned, is about two-to-one so that, when the motor is operating at 500 RPM, the generator is operating at 1,000 RPM and the current is 115 volts. In other words, there is 110 to 115 volt current any time the truck motor is operating at 500 RPM.

According to Chief Greunke, they have never found it necessary to run the motor above 1,100 while operating the aerial and booster pump so that the lights are available whenever they need them. The chief believes the motor might operate above 1,100 or even 1,400 RPM while traveling to a fire but the switch in the shunt field circuit opens the circuit and lights are not needed at this time.

For convenience a voltmeter is located on the truck dash.

Chief Greunke believes his lighting arrangement possesses these advantages:

1. The firemen have lights as soon as the driver stops the truck and throws a switch without the usual delay and cost in manpower required in setting up and starting a portable generator, setting up lights and stretching cords. The two 500-watt swiveled floodlights on the truck are immediately available. They can be extended upward if necessary. Other portable lights can be plugged in if needed.

2. The aerial can be operated and placed accurately at windows because there is plenty of light.

3. On fires involving small buildings, where the aerial is not needed, the lights are thrown on the building and yard, making it possible for the men to work efficiently and safely.

4. The department has thus far not had occasion to use the aerial for rescue work, but Chief Greunke believes that darkness tends to cause panic and there is less danger of panic if there is ample illumination and people trapped in a building can see that help is on the way. Then, by using loud speakers those trapped can be given assurance and instructions on what to do.

The installation has been in use nearly 24 months, according to Chief Greunke and has performed most satisfactorily. In his opinion similar installations should be made on all ladder trucks

Fire Oddities

Every business has its oddities and the business of fire fighting is no exception.

Back in the horse days, for example, there was a blaze in the gymnasium building at Columbia University in New York City. The grounds were surrounded by high, ironwork fences, and since it was at night when the fire occurred, the gates were locked.

Due to the delay which was encountered in getting at the fire because of the locked gates, the blaze gained some headway, and when a stream was at last brought into action it was found that there was practically no water pressure in the mains and the stream hardly threw twenty-five feet, even with the pumping engine working hard. More alarms were sounded. More companies arrived but none could do any better until the last company arrived on fourth alarm. Being the last company due, they found all the hydrants occupied close to the fire and ran by the University grounds to a hydrant on Broadway considerably down the rather steep hill to 125th Street (or Manhattan Street, as it was called then). Although they were farthest from the fire they now had the best hydrant, since it was the lowest. In addition, they had the most powerful pumper at the fire—the second most powerful in the city. They alone were able to pump a decent stream and the fire was put out by the last company due on fourth alarm.

The same company—74 engine with quarters in West 77th Street—one day got a call from West End Avenue somewhere below 72nd Street. The driver lived down that way so when a call came from that neighborhood "the boys always got a fast ride," he said. On this particular day, as they turned into West End Avenue, a tall column of black smoke could be seen rising over the housetops near the point from which the call had come.

"This," said the driver to himself, "is going to be a five-alarm fire."

Arriving at the scene, the firemen found that some men working on one of the housetops had gotten a barrel of tar on fire—and one stream from one hose extinguished it.

One day in a place far from New York a new Ahrens-Fox pumper was being delivered by one of the service men to the fire department which had purchased it. Passing through one of the towns along the way, he saw a house on fire. The occupants were trying hard to put it out. The service man stopped, and with one of his extinguishers (which, fortunately, was loaded) he soon had the fire "doused." The local fire department had been called and their sirens could now be heard screaming along the road. They arrived only to find that a strange fire-engine had already done their work.

When the New York Central Railroad began running gas-electric cars to Yorktown Heights, N. Y., the whistle (or horn) on the cars was so very like the fire alarm in use at Yorktown Heights that the first time the car whistle was blown the firemen turned out, thinking there was a fire—even though no proper fire alarm signal was given to indicate the location of the fire. At the fire department's request, the railroad changed the type of whistle on its cars.—G. W. O'Connor.

The Appleton Aerial Mounts a 500-Watt Lamp Where It Will Do Most Good

A flick of the switch and companion floodlight on other running board of 85-foot aerial ladder of the Appleton Fire Department light up the fire building and provide illumination for raising and placing the ladder, and performing rescue and other ladder operations. Lights are powered by generator carried on apparatus. They may be removed from standards and used in portable holders.

Coordinating Council Meets

The Southern Coordinating Council of the California State Firemen's Association held its second annual convention at the Civic Auditorium in El Monte, California, on May 21, 1949.

Following the procedure for last year's conference, the meeting started with a showing of recently developed fire apparatus.

El Monte's new pumper furnished pressure for fog nozzle demonstrations. Of particular interest were new light weight fog nozzles which were employed. Extinguishment of gasoline fires with dry powder extinguishers was also included.

At 3:00 P.M. the business meeting was called, and started with the showing of two Navy training films on fire fight-

(*Continued on page* 525)

LESSONS TO BE DRAWN FROM A COSTLY FIRE IN NEW YORK CITY

Over-Concentration of High Value Storage in Large Areas, Unsprinklered; Lack of Hydrants Give Firemen Trouble

WAREHOUSE fires are usually trouble makers for firemen. In addition to being large potential loss breeders they are difficult to fight.

The blaze which destroyed two sections of the huge Electrolux plant in the Bronx, New York City, on March 10, 1949, is a case in point. Although this fire made few headlines in the nation's press, it was the city's most costly fire of the year, up to that date, and gave a large segment of the metropolitan fire department a long and punishing struggle before it was extinguished.

The plant, although constituting one building, actually consisted of three structures, or sections, erected at different times. Originally built for occupancy as an iron works, then as a wartime engine plant, the structure was entirely unsuitable, from a fire prevention standpoint, for occupancy as a warehouse.

The west building, or main section, erected about 1927, is of fire resistive construction. Walls were brick, except east wall which is cinder block. Roof is of composition on reinforced concrete arches supported on steel beams and girders; floor, concrete on ground. All steelwork of this building is protected by concrete fireproofing. The building was separated into six sections of various areas by brick, concrete and cement block walls with none, or poor protection, at communicating openings. Total area of this building was 18,700 sq. ft.

The east building, erected during the war, is a high one story, with small basement structure of incombustible but not fire resistive construction. An open balcony extends along the east side, and a closed balcony along part of the west side of the building. Walls are brick with large wired glass window areas. Roof is reinforced concrete on steel beams, girders and columns. Steel columns, lower flanges of beams and girders and brackets are all unprotected. Floor wood block of concrete. This building is one unbroken area totaling 28,700 sq. ft.

After the west and east buildings were constructed, an area 50 ft. wide and averaging 335 ft. in length, which existed between the two structures, was enclosed and made into a center section by erecting steel columns adjacent to the east wall of the west building, and extending the steel columns in the west wall of the east building. Steel girders were then supported on the columns which in turn supported steel beams, with a roof consisting of composition on two-inch pre-formed metal edged tongue and grooved gypsum planks. All steelwork of this center section was unprotected except the columns on the east, which were protected by four inches of brickwork. Side walls of this section were the former exterior walls of the east and west buildings, and contained numerous wired glass in metal frame windows as well as several unprotected or poorly protected openings. In addition, these walls were extended about twelve feet above the roof of the two existing buildings, and were provided with wired glass in metal frame windows so that the roof took the form of a large monitor. Area of this building was 16,500 sq. ft.

The plant was provided with numerous first aid fire appliances of various types, a four-inch standpipe system supplied from the house tank and city main with seven outlets with 1½-in. hose attached. A partial sprinkler system was installed under the west balcony of the east building. Watchman service was provided, with watchman making hourly rounds to six stations of an A.D.T. System.

The entire premises were occupied by the Electrolux Corporation as a warehouse for storage of vacuum cleaners, cleaner parts and miscellaneous products, as indicated on the accompanying diagram. A small amount of supply and advertising printing was done in the west building with storage of paper stock. The small two-story section was used for record storage. The basement contained the boiler room and small maintenance shop.

The center building in which the fire originated ("X" on diagram) contained large quantities of rubber suction cleaner hose, garment bags, cartons and trade-in cleaners. The hose, in sections of about nine feet in length, was packed fifty to a bundle, wrapped in paper, and then in burlap with the ends of the burlap gathered and tied in a tassel-like end. The bundles of hose were laid six in a row with each additional row crosswise to the row below. Bundles were piled twenty-five high, reaching a height of twenty feet, and were two deep to the center of the building. Wood pallets were inserted between the cartons in the high piles of stocked merchandise to facilitate handling by fork truck. This practice aided in the spread of the fire throughout the piles of stock.

It is reported there were about 222,000 individual 9-ft. lengths of cleaner hose in one concentrated storage on the west side of the building and 50,000 in other piles on the east side. This hose, as well as its covering, was readily combustible, as were the garment bags, in paper cartons and the stocks of knocked-down cartons.

Cause Not Determined

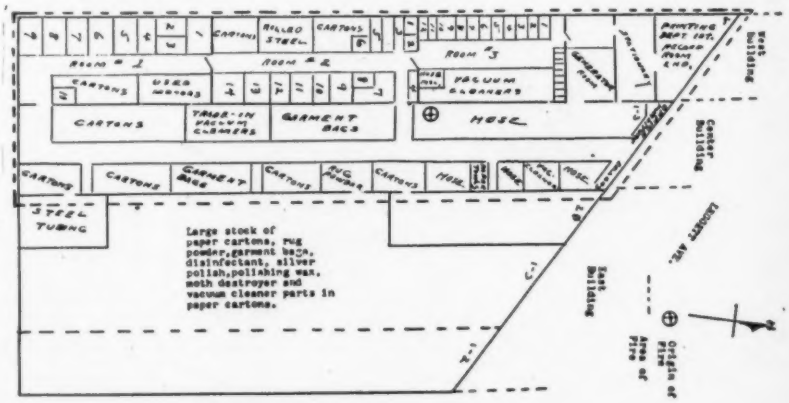
The cause of the fire has not been determined, but at about 1:30 P.M. the day of the fire, an electrically driven conveyor had been used in loading a truck with bundles of cleaner hose—the truck being located just inside the Leggett Avenue entrance (see diagram), when an employee smelled smoke and on investigation saw fire in a pile of vacuum cleaner hose about 25-ft. in from the rear of the truck.

The fire apparently originated on the fuzz of the burlap wrapping of the hose bundles about a man's height above the floor and spread rapidly to the tops of piles as well as burrowing into the piles.

One employee promptly operated an A.D.T. alarm box in the east building while another telephoned the fire department. The driver of the truck that was being loaded drove his vehicle outside the building and pulled the fire box at the corner of Leggett Ave. and Truxton St. Meanwhile employees attempted to extinguish the fire with extinguishers and by operating two lines from the building standpipe.

Although there was no delay in notifying the fire department and the first companies arrived promptly, the fire had already assumed multiple-alarm proportions. Witnesses exclaimed at the speed with which the fire jumped from one pile of storage to another.

The blaze soon spread to and throughout the west building and along the west wall of the east building. The heat from the flames caused the unprotected steel members of the center building to buckle, dropping the roof into the building.



Approximate Location of Merchandise Storage

Room 1: 1, 2, 4, boxed steel rods; 3, 10, strip steel; 5, dies in crates; 6, vacuum cleaners; 7, flannel in rolls; 8, empty cans. Room 2: 1, steel rods; 2, 3, strip steel; 6, 8, 10, rubber goods; 4, motor mountings; 5, vaporizer screens; 7, 9, electric cord; 11, brass coils; 12, coiled steel; 13, cartons; 14, glass jars. Room 3: 1, elbows; 2, twine; 3, wrapping paper; 4, dust brushes; 5, paper stock, nameplates, miscellaneous parts; 6, filters; 7, rug cleaner; 8, switches; 9, dust bag cloth, empty cans; 10, paper printed manuals; 11, wall brushes; 12 seven miscellaneous items.

*Most of the material in this account is taken from the Report on this fire published by the New York Board of Fire Underwriters, 85 John St., New York 7, N. Y.

Electrolux Plant Fire at Its Height.

Effective work by the fire department, in entering the east building and operating lines along the exposed wall, prevented involvement of that part of the structure. In this, firemen were aided by the fact that there was not a large quantity of combustibles stored along the wall and the wind was blowing away from this area.

Fire fighters, however, were handicapped by the lack of nearby hydrants. There was none on the west side of the west building along Dupont Street. Also, the large area of the building and extent of the fire necessitated long stretches of hose and this fact, plus the need of heavy streams to make any impression on the fire, required a full four alarm assignment, which brought the following response:—

Chronology of Alarms and Response

1:35 P.M. Box 2427, Leggett and Truxton: Eng. 95, 73, 82; Lad. 48, 42 Chief B. Love, 17 Batt.

1:44 P.M. Box 2427, 2nd Alarm: Engs. 83, 41, 50, 60 L 31; Res. 3, Chf. 7th Div.

Change location: E 91/73, 90/82, 47/60; L 27/31, 43/42.

1:52 P.M. Box 2427, 3rd Alarm: E 71, 92, 69, 45; L 29; Gas Wag. 13, Chf. 15 Batt.

Change location: E 48/71, 75/48.

2:19 P.M. Box 2427, 4th Alarm: E 36, 59, 35, 80, 68 (No ladder).

Change location: E 44/36, 76/59, 67/68.

The fire brought Fire Commissioner Frank Quayle; Fire Chief Peter Loftus; Chief of Staff and Operations, Frank Murphy; Deputy Chiefs Hugh Halligan, Edw. Connor and Daniel Deasy; Acting Deputy Chief Thomas O'Brien, Fire Alarm Bureau; Supervising Engineer, Harry Irwin and numerous other officials. Communications were handled by Supervising Dispatchers Arthur King and Lou Turner (on two Bronx Fire Alarm Headquarters trucks, 8 to 4 and 4 to 12).

The property loss amounted to over $2 million. The center section of the building was virtually destroyed. The fire resistive west building generally withstood the fire but some roof arches were buckled. The interior was blackened and windows in its west wall broken and all the composition roofing burned or damaged. Brickwork was spalled.

Loss to contents was excessive and practically everything within the burned sections was destroyed. The greater part of the contents of the east building was undamaged. Insurance on building is $700,000; contents, $2,495,000 with an additional $250,000 reporting form. If the loss exceeds $2 million it is said this will be the largest single loss payment ever made by the insurance companies in New York City.

Lessons of the Fire

In its Report, the New York Board of Fire Underwriters offers a number of conclusions to be drawn from this fire. The first is that steel structural frames, where protected by concrete, stand up against heat much better than unprotected framework. Because the steel of so much of the building was unprotected, it lost its stability, buckled and collapsed. Failure of unprotected steel members when loaded to their design strength, said the Report, may occur at temperatures of 1000-1200 deg. F. This is much below temperatures produced by the burning of ordinary combustible material.

Next, the fire illustrates the fallacy of using a structure as a warehouse to store costly materials, which is entirely unsuited to the purpose.

Areas of the entire structure, as well as the areas of each of the east and center buildings or sections, if taken separately, were excessive and greater than that permitted by the building code. This may not have been especially serious with the low operational hazard of the structure in its original occupancy, but it was a decidedly undesirable feature under the present occupancy. Besides being the factor responsible for the creation of a fire of such magnitude that it required a large fire fighting force to subdue it, it made it difficult for firemen to reach all parts of the building and fire, because of the comparatively long distances involved.

The materials stored invited the spread of fire. The fuzz of the burlap was easily ignited and its speed in burning is likened to gunpowder. Much of the material was "loosely packed" a fact which aids the spread of fire more rapidly than where goods are closely packed. Storage piles were too high, permitting fire travel over the top in inaccessible places, and by means of burrowing through the stacks. Lastly, there was obviously too great congestion of storage in the areas involved.

Slight Increase in Fires for Profit

A "very slight" increase in the number of fires set to collect insurance was reported by the National Board of Fire Underwriters at its annual meeting at the Hotel Commodore in New York City recently.

The National Board's Committee on Incendiarism and Arson pointed out that the trend was "not surprising" in view of the slight change in economic conditions, including declining prices and greater unemployment. No evidence was discovered of organized arson or of the operation of professional arsonists.

"A very high percentage of incendiary fires still continues to be the work of irresponsible individuals, and, once again, there have been serious fires set by children, many of very tender years," the Committee said.

Special agents of the National Board investigated 2,894 fires of suspicious origin during the past year, an increase of 326 over the previous year.

The Committee offered the following tabulation of the number of arrests, convictions, and acquittals during the past fifteen years in proceedings instituted by public officials in which National Board agents participated:

	Arrests	Convictions	Aquittals
1934.....	782	434	130
1935.....	697	379	122
1936.....	635	297	84
1937.....	679	360	88
1938.....	667	379	123
1939.....	602	343	89
1940.....	647	394	95
1941.....	602	400	63
1942.....	486	337	54
1943.....	594	429	22
1944.....	526	316	28
1945.....	604	359	34
1946.....	731	494	35
1947.....	666	430	58
1948.....	603	366	57

In addition to the figures shown in the table, there were many fires caused by young children who were dealt with by juvenile courts or by parental action, the Committee reported, and by mentally irresponsible persons who were placed in asylums.

May Fire Losses

Destruction of property and resources by fire in the United States during May totalled $54,162,000, according to estimates announced in New York by W. E. Mallalieu, general manager of the National Board of Fire Underwriters.

This loss represents a decrease of 8.(per cent from losses of $59,256,000 in May, 1948, and a decrease of 2 per cent from losses of $55,290,000 reported in April, 1949.

May was the fifth successive month in which U. S. fire losses have declined in relation to losses in the same months last year.

May's losses bring the total fire destruction for the first five months of 1949 to $297,020,000, which is $34,754,000 or 10.4 per cent less than losses of $331,774,000 reported in the first five months last year.

At an annual rate, losses for the 12 months period ending May 31, 1949 are estimated at $676,360,000, compared with $705,973,000 for the 12 months period ending May 31, 1948. This is a decline of 4 per cent.

These reported losses under fire insurance policies include an allowance for uninsured and unreported losses.

NEW HAVEN STAGES FIELD DAY FOR NEW ENGLAND FIRE CHIEFS

Many Instructive Demonstrations In Fire Extinguishing Carried Out

A Staff Report

APPROXIMATELY 500 fire officers, marshals and fire protectionists from nine Eastern states, including several hundred members of the New England Division of the International Association of Fire Chiefs, watched New Haven, Conn., firemen demonstrate the latest techniques in fire control methods and equipment, on May 27 and 28.

The evening of the 27th was given over to practical working demonstrations of the latest in fire detection alarm and recording systems, and a get-together meeting of the visitors, at the Hejaz Grotto Hall. The entire affair was directed by Fire Chief Paul P. Heinz and Deputy Chief Thomas Collins, assisted by almost the entire official family of the New Haven Fire Department, together with numerous manufacturers' engineers.

Saturday the 28th was packed with activity as fire fighters set and extinguished fires at the department's modern training field.

Nearly a dozen tests of actual fire extinguishment were conducted, interspersed with about as many demonstrations of latest of fire extinguishing agents and equipment.

The more outstanding tests included the following:

1. FLAME PROOF PAINT: A hot "class A" fire was built in a wood shack which had been painted with two coats of Albi flame retarding paint. After three minutes application of extreme heat the structure showed no appreciable fire damage.

2. DRY POWDER: Approximately identical fires were built in an 18 ft. circular tank. Fuel oil and solvents, floated on water, were primed with gasoline and ignited. In the first half of this test two Safety First 20-lb. dry powder extinguishers were used. Fire was given a pre-burn of 65 sec. Extinguishment in 12 sec. Attack was made down wind. In the second half of the test, using a similar fire, with 1½-in. hose and Rockwood Fog Nozzles but allowing a pre-burn of 1 min. 40 sec., extinguishment was accomplished in 13 sec.

3. PROPANE FIRE: Propane supplied under pressure to a leaky gasket to simulate condition at a storage terminal where fuel from a ruptured pipe connection is ignited. In the first part of test water fog, with 1½-in. line and Rockwood Fog Nozzle, was used. The fire was controlled but could not be extinguished. In a similar test, CO_2 was ineffective on the hot fire. In the third phase, dry powder extinguished the fire in 7 sec.

4. WATER FOG CELLAR PIPE: Five containers of fuel oil were placed in lower part of cinder-block test building and ignited. Thermocouples recorded temperature rise—400 deg. F. in 15 sec.; 450 deg. F. in 35 sec. Water fog was applied through a Rockwood 250 GPM, 2½-in. cellar pipe, pressure about 120-125 PSI. Fire was considered controlled in 15 sec.—out in 23 sec.

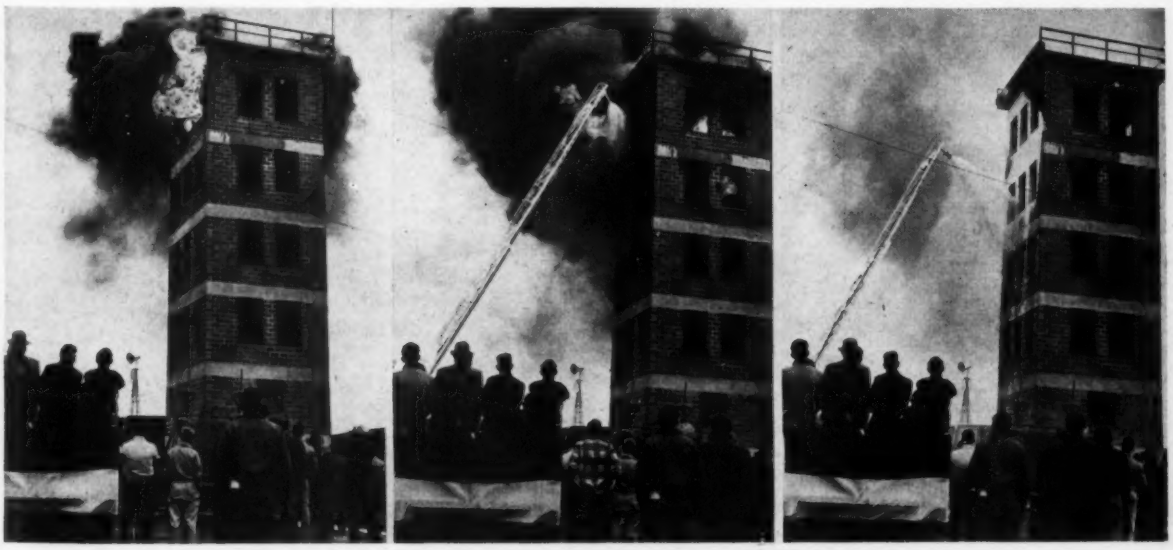
5. AUTOMATIC VENT: The test building was fitted with a self-releasing scuttle, spring-actuated vent so connected to the automatic alarm (rate-of-temperature-rise) system that at a given temperature the trap-door of the vent opened to permit gas and smoke to escape. A hot, smoky fire was built in the structure. The thermocouples recorded 200 deg. F. in 1 min. 15 sec.; 300 deg. F. in 1 min. 30 sec.; 400 deg. F. in 2 min., and over 500 deg. F. in 2 min. 20 sec.

The scuttle vent tripped open with the sounding of the alarm in 32 sec. after ignition. Temperatures dropped faster than they could be recorded, after the sprinkler system was turned on (by hand). In 35 sec. the temperature was 150 deg. F. The water was applied throught the sprinkler system fed by one 2½-in. hose line. A 1½-in. fog stream was used to "mop up."

6. BENZOL FIRE: The right and wrong method of attacking a hot benzol fire, using water fog, plain water and treated (wet) water was shown: For this test a new 1250 GPM Seagrave pumper having a 150 gal. booster tank and a Rockwood proportioner was used. The proportioner was so connected that at the turn of a valve, plain or treated water or foam was available, eliminating the need of pre-mixing foam solution.

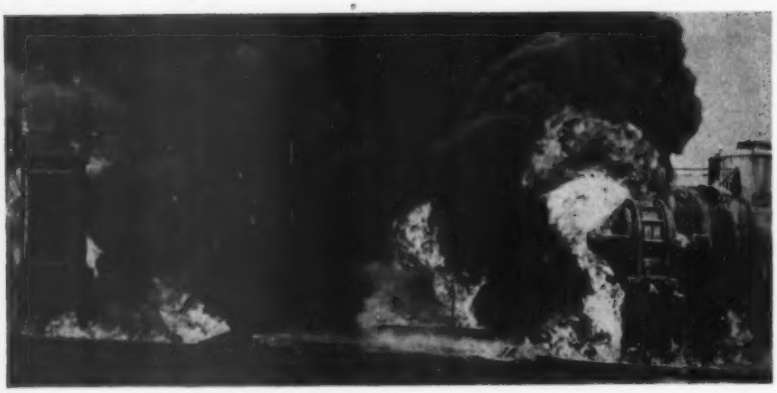
A 20 x 6 ft. tank was loaded with 50 gals. of benzol, floated on water and oil and ignited. The resulting fire was attacked with plain water, taken direct from the pump. A 1½-in. high velocity Rockwood nozzle was used. After 12 min. and 30 sec., plain water fog was given up as ineffective. At this point wet water was substituted (2% sol. Unox) and the fire was knocked down in about 24 sec. It required 9 sec. more to clean up the spill fire outside the tank that ensued following the initial attack by plain water. Time for total operation using wet water, 35 sec.

7. JET FUEL: Approximately 40 gals. of jet fuel (flash point 120 deg. F.) were floated on water in a 10 x 10 ft. pit. This was ignited and given a 15 sec. pre-burn. The fire was then attacked with plain water fog (1½-in. hand line) but without appreciable results. Fog with treated water (2% Unox) was then



Fog-Foam Controls Simulated Loft Building Fire

Left: Fifty gallons of gasoline, floating on a 4-inch water base on the top floor of the fire department drill tower at New Haven, Conn., has just been ignited. Center: Fog-foam nozzle at top of aerial ladder goes into operation. Right: Fire has been extinguished, and face of tower is being "painted" with fog-foam.



Water Fog Handles Large Area Fire Pits. Motors, Transformers and Mounted Tank Were Enveloped by Fire Involving Oil and Solvents. Fire Was Brought Under Control by Two Turret Trucks Mounting Guns Equipped with Three 500-GPM and One 220-GPM Fog Nozzles

applied using high velocity head (Rockwood SC-40) but this also failed as fumes continued to reflash. Fog and wet water (2% Unox) using an FFF Rockwood nozzle produced better results, extinguishing the fire in about 20 sec. At end of test a good emulsion and light foam covering were noted.

The pit was refuelled and ignited and this time dry powder was applied, down wind. Extinguishment was accomplied in slightly under 5 sec. Because of short pre-burn period this fire was not as hot as the previous fire.

8. GASOLINE FIRE: This test was to compare efficiency of dry powder and treated water fog in extinguishing a bulk gasoline fire. 25 gals. of gasoline were floated on a 4-in. water base in a 10 x 10 ft. tank. Rockwood SG-40 fog nozzle on a 1½-in. hand line at 100 PSI pressure was used. The contents were given an 8 sec. pre-burn and the fire attacked with treated water (2% sol. Unox). Extinguishment time 25 sec.

A duplicate fire was attacked using dry powder (2-20 lb. ext.) and the fire was out in 7 sec.

9. GASOLINE AND SOLVENT FIRE: To demonstrate an in-line proportioner, about 50 gals. of gasoline were used to prime a large quantity of mixed solvent and gasoline, in a 30 x 20 ft. tank. The proportioner was located about 2 hose lengths back of the nozzle (on the 2½-in. line). Pick-up tube was placed in a 5-gal. can of Rockwood foam sol. Discharge on the fire was reported at 200 GPM, nozzle pressure being over 100 PSI. After a 30 sec. pre-burn this fire was extinguished in 1 min. 35 sec.

10. SIMULATED LOFT BLDG. FIRE: About 50 gals. of gasoline were pumped into the 5th floor of the concrete drill tower, and floated on a 4-in. water base. Fire was started and given pre-burn to enable it to involve entire floor area. Fire was attacked by fog foam, with a single 2½-in. line discharging through a Rockwood FFF head on the ladder pipe directly into the windows. The 85 ft. Seagrave metal ladder was operated by hand controls from the turntable. Foam solution was supplied through the department's new foam proportioning unit. This was hooked into the pumper's discharge line and the solution added to the feed line by means of the dual 'round the pump proportioner. The hot fire was extinguished in 1 min. after which the upper part of the structure was 'painted' with fog foam to show how a ladder-gun and modern foam nozzle can cover large surfaces. It was pointed out by Chief Heinz that where there is any elevation, in-line proportioners are not effective. In this situation an around-the-pump proportioner is required. The proportioner used on this test was a Rockwood Dual 'Round-the-Pump.

11. WATER FOG ON LARGE AREA FIRE: To demonstrate use of water fog on a large area fire the major part of the training grounds was covered with oil and solvents and partially primed with gasoline. Pits, including transformer and motor and large mounted tank (total area about 200 x 100 ft.) were all ignited. The ensuing "conflagration" fire was fought by two turret trucks, mounting guns equipped with three 500 GPM and one 220 GPM SG-23, Rockwood nozzles. The trucks were supplied by 2½-in. lines from the department's fireboat and two pumpers. The lines were supported at the manifolds of the trucks by ropes so that hose could drag along behind the units as they moved in. The field and pits were alight at 4:12 P.M., and in 2 min. 35 sec. the fire was pronounced out. Note: Two 1½-in. lines with fog nozzles and a 2½-in. standby line with in-line proportioner were held in reserve "just in case." Mop up was done with 2 1½-ins. lines.

12. GASOLINE TANK FIRE: Gasoline (100) gals.) under pressure was piped over the and around a 10,000 gal. railroad tank car and, allowed to drop into and float on a water-filled pit underneath the tank. The fire, of great intensity, was fought with two lines of 2½-in. hose, using foam, one line taken from the department's 'round-the-pump proportioner truck. Both lines had stream-shapers (Rockwood FFF type). On this test, the foam truck ran dry before complete extinguishment. A 2½-in. hand line, using the new FFF Rockwood nozzle and in-line proportioner was brought into play to complete extinguishment, supporting the fog foam line operating on the other side of the tank. The fire demonstrated the hazard of re-flash, and the need of ample available supplies of extinguishing agents.

Other demonstrations included:

HOMELITE SMOKE REMOVER: Moving over 5,000 cu. ft. of air per minute (colored smoke bombs dramatized this test).

ROCKWOOD FOG CELLAR PIPE: Operated through roof of structure in which hot, smoky fire had been kindled. Temperature of over 800 deg. F. was reached in a few seconds after ignition. Two seconds after pipe was started, fire was out. In 15 sec. temperature had dropped to 100 deg. F. In a second demonstration a fire of 600 deg. F. intensity was knocked out in one second. The 2½-in. unit delivers 220 GPM.

SEAGRAVE 1250 GPM PUMPER: Six 2½-in. lines were taken off pumper operating on hydrant supply. Four lines were fitted with the new Barker-Eastman nozzles. In another hook-up, two Barker-Eastman deluge sets were operated.

GUNDERSON AUTO' ALARM SYSTEM: Between events, the novel automatic fire detection and alarm system devised by Robert W. Gunderson, the famous blind inventor, were operated on the training ground.

Fire Destroys Music Center

Ravinia Park, Ill., nationally-known music center, was the scene of a $150,000 blaze on May 14, 1949, when fire destroyed the music shrine's main pavilion and band shell.

The eighteen acre park is located in southern Highland Park, Ill., a fashionable suburb north of Chicago, Ill.

Destroyed pavilion was a 45-year-old two-story wood structure whose stage accommodated 90 musicians. Its roof extended over 1,420 seats. Six wings provided space for 900 more persons and benches at the rear seated 1,000. Dressing rooms occupied the second floor.

First notification of fire was received by telephone at 9:54 p.m. by the Highland Park Fire Department. Two 750-gallon pumpers responded with William Henning, Highland Park Fire Chief, in charge.

Subsequent alarms were sent in immediately by police and fire department two-way radio according to previously organized mutual aid agreements. Villages of Winnetka, Glencoe, Highwood, Lake Forest, and Fort Sheridan responded with pumpers.

Band shell and pavilion were completely involved when first apparatus arrived. Initial fire-fighting efforts consisted of stretching hose lines. No rescue operations were necessary because the building was empty.

Later arriving pumpers were employed to aid in extinguishing the fire and protecting exposures, which included an office building, refreshment stand, and a storehouse for stage properties.

Hydrants were plentiful and no long hose lays were necessary.

Flames were brought under control about 1:30 a.m., more than 3½ hours after the first alarm. Last engine picked up by 2:00 a.m.

Chief Henning estimated damage at $150,000 and said the blaze was of undetermined origin. John Laurie, park manager, estimated replacement cost at $200,000 to $250,000.

Percy B. Echardt, chairman of the Ravinia Festival Association, said eight or 10 workmen were preparing the park for the concert season, which was scheduled to open June 28, when he left the grounds the day of the fire.

Ravinia originally was an amusement park and won later fame as a center for classical music. Ravinia Festival Association, a non-profit organization, has been operating the park as a music center since 1936.

Bar Harbor Gets Radio

Through the generosity of summer residents the Town of Bar Harbor installed two-way radio in December, 1948. The main station of 50 watts with triple-gain antenna has been located on a hill in Hulls Cover, six miles from the two remote controls in the Town. One remote control is at the firehouse and the other at the police station. Five mobile units are used by the fire department and five by the police department, while an additional unit is operated by the sheriff. The installation was made by General Electric and is FM type on the 152-162 mc band. The frequency used by the fire department is 155.13 mc. The department's call letters are WXTH.

Having in mind the destructive fire of 1947, the Town authorities have passed an ordinance which permits closing of wooded areas at any time by proper authorities, should grave fire danger arise. It is also necessary to secure a permit from the fire chief in order to do any outdoor burning during the entire year. This is said to be the first instance in the state of Maine where a town has passed an ordinance giving complete fire control over wooded areas.

Since the 1947 holocaust, the fire department has acquired a jeep for patrol and forest fire work and a Ford forest-fire truck which was built by Maxim Company with Marmon Herrington conversion to four-wheel drive. This unit is equipped with a 560 gal. water tank, aluminum ladders, two reels of 200 ft. of booster hose water wetters and all the usual tools used in fighting forest fires. Its pump is of the 500 GPM rotary type.

The jeep is now radio equipped and is expected to give an even better accounting of itself the coming season.

JOHN C. HEATH, Lieutenant
Bar Harbor Fire Department

Exhibitors at I. A. F. C. New Orleans Conference

A very representative group of manufacturers have already been lined up for exhibits at the forthcoming I. A. F. C. conference at New Orleans.

Those who have reserved space to date are as follows: Stephenson Corp.; Circul Air Corporation; Doolittle Radio, Inc.; Scott Aviation Corp.; V. H. Blackinton & Co.; Atlas Safety Equipment Co., Inc.; Mine Safety Appliances Co.; Metcalf Bros.; Owens-Corning Fiberglas Corp.; John Bean Mfg. Co.; A. D. T. Company; Pyrene Mfg. Company; Link Radio Corp.; Eureka Fire Hose Div. of U. S. Rubber Co.; Homelite Corp.; American City Magazine; American Marsh Pumps, Inc.; J. H. Emerson Co.; E. & J. Manufacturing Company; Cardox Corporation; Randolph Laboratories; The Gamewell Company; Rockwood Sprinkler Company and Wooster Brass Company.

A number of others have indicated their intention of staging displays, and at this early date it appears that the exhibit will be an outstanding one.

To facilitate registration at this year's conference, the Association Headquarters have sent out advanced registration forms, with the July Newsletter, which will permit those who plan to be on hand to register in advance. This will eliminate the necessity of waiting in line at the conference for registration.

DUAL ACCIDENTS AT BARN FIRE CAUSE INJURY TO THREE FIREMEN

Over-age Ladder Breaks, When Unevenly Loaded, and Power Pole Falls

A Staff Report

THREE firemen were seriously injured in a combination of accidents involving the breaking of an aerial ladder and a falling light pole while fighting a fire on the large dairy farm of Harold Pew, Burlington Road, about two miles north of Mount Holly, N. J. More than a score of other firemen were treated for injuries, exhaustion and smoke poisoning during the long struggle to control the blaze, which did estimated damage of $100,000.

The injured were Mount Holly Fire Chief Earl Arey and Burlington, N. J., Fire Chief Ernie Sternotti, and Mount Holly Firemen John Dries and Robert Anderson. The two chiefs were involved in the falling of the pole, while the two firemen, with companions Fireman "Mutt" O'Donnel and Howard Johnson were involved in the ladder failure.

The fire, of undetermined origin, but believed to have been caused by spontaneous ignition of the hay, started shortly before 9:30 A.M. on May 7, 1949, in the big barns of the Pew dairy farm. It was discovered by the wife of a tenant farmer who lives nearby and

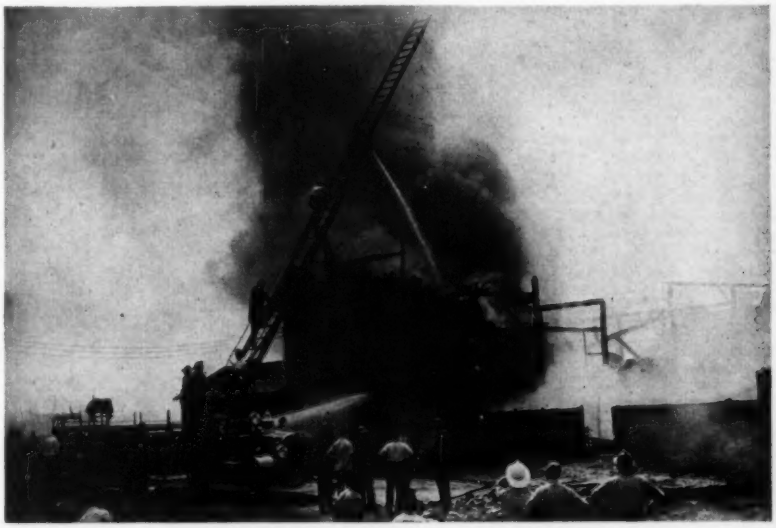


Fig. 1. Just Before Ladder Broke at Pew Farm Fire

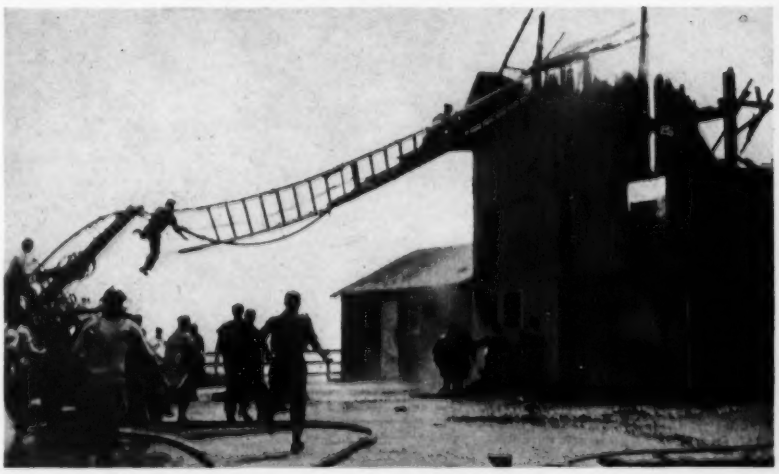


Fig. 2. Ladder Falling, Following Fracture of Bed Ladder Near Base. Firemen at Right Rush in to Rescue O'Donnel

who telephoned the Mount Holly Fire Department.

Firemen under command of Chief Arey responded promptly to find fire in control of the tons of baled hay and straw in the large wooden structures measuring 160 x 36 ft. and two stories in height. Fortunately the 200 cows normally housed in the barns were in pasture at the time, but three prize bulls and a member of heifers were inside, and were led to safety by farmhands and firemen. Fire rapidly involved the barns and 70 tons of hay and straw, giving off great heat and making close fire fighting difficult.

Aid was immediately summoned from surrounding communities, and at the peak of the fire more than 200 firemen from 12 fire units were in operation. Assistance came from Burlington, Beverly Road, Hainesport, Masonville, Rancocas, and Columbus, N. J. These forces operating under difficulty, managed to save part of one of the structures, housing dairy equipment, and prevent extension to other exposed structures.

Firemen had to lay lines to a source for pumpers about a mile away. Three pumpers set up a relay, while other units hauled water from Mount Holly and nearby farms for the boosters on other apparatus fighting the fire. In this operation tankers proved most valuable, bringing in supplies to feed the boosters, which operated on exposures and later on the fire itself.

In order to get water directly onto the main blaze. Mount Holly's 65 ft., twenty-five-year-old aerial ladder was brought into action. Its ladder was raised and extended about three-quarters of its full length at about a 45 deg. angle toward the burning barn. It is said that a 1½-in. line was first used from this ladder and this was later reinforced by a 2½-in. line.

Fireman O'Donnel was at the pipe on the ladder, while Fireman Dries, Anderson and Johnson were located on the main ladder (see Fig. 1) when, without any warning, the main ladder snapped, throwing O'Donnel into the barn, and Anderson and Dries to the ground. Johnson also fell, but a shorter distance than his fellow firemen.

Rescuers sped to reach O'Donnel, who emerged from the wreckage under his own power with a badly cut lip—his only injury. The hay had broken his fall. Johnson received minor injuries also. But it was a different story with Dries and Anderson. The former suffered a fractured pelvis and internal injuries, while the latter received a broken thigh. Both suffered from shock.

All the injured received first aid treatment at the scene and were removed to the nearest hospital, where later, O'Donnel and Johnson were released. America and Endeavor First Aid Squads applied first aid and also treated the numerous other firemen for smoke poisoning and other minor injuries.

Soon after this accident, and with the fire under control, it was decided to pull down one remaining wall of the smoldering barn. Electric light wires were strung from this wall to a pole across the driveway.

Fire Chiefs Ernie Sternotti, of Burlington, and Earl Arey, of Mount Holly, were standing near the pole when the order to pull the wall was given. When the wall fell, the wires held, taking the pole with it, directly onto the two chiefs.

Both men were knocked unconscious, but it turned out that Chief Arey took the brunt of the shock. He received a badly fractured thigh which may leave permanent injury. Chief Sternotti suffered only bruises and shock.

According to information given FIRE ENGINEERING by First Assistant Chief Clearence H. Butt, of Union Fire Company No. 2, acting head of the Mount Holly Fire Department following the accident, the ladder was of standard make, 65 ft. in length, and purchased in 1925. About ten years ago the ladder suffered some injuries during a drill at which time the side rains were replaced.

According to a representative of the manufacturer and others who checked on the accident, the break was caused by overloading of the ladder, considering its plane of angularity, and the fact that at the time of the failure, most of the weight of the men was on one side of the ladder. That rail, the left, failed first, followed at once by the right rail. The break came about where the rails join with the metal reinforcing. Chief Butt reports the break was not a clean, sharp one but rather a twisting fracture. This is indicated in the accompanying illustrations.*

Although the aerial ladder is out of commission, the remainder of the apparatus is serviceable.

*The series of pictures presented here were taken by Edward H. Arndt of the Mount Holly Herald, a volunteer fireman who, after fighting the fire for some time, decided to take some pictures, and who providentially had his camera focussed on the ladder at the precise moment it snapped.

Fig. 3. Close-Up of View Showing Fracture of Ladder.

802,545 Urban Fires in 1948

A new survey reveals that there were 802,545 urban fires in the United States during 1948, the National Board of Fire Underwriters reported recently at its annual meeting in the Hotel Commodore, New York.

The survey, made by the National Board's Committee on Statistics and Origin of Fires, indicated that 388,935 of these fires were in buildings, while 413,610 were non-building fires, including grass and brush fires. This represents an increase of 7.8 per cent in building fires and 5.7 per cent in non-building fires over 1947.

The totals were compiled on the basis of questionnaires answered by 1,954 fire chiefs in towns and cities of 2,500 population or more. The survey did not include rural areas.

The survey indicated a slight drop in the number of fires in "manufacturing" occupancies, while the number of "storage" fires increased by 11.8 per cent, "residential" fires by 8.8 per cent, and "mercantile" fires by 6.1 per cent.

Hancock County, Maine, Organizes

Hancock County, Maine, has a new firemen's organization, the Hancock County Firemen's Association, which includes sixteen organized fire departments within the county.

The objective of the new association is to bring together firemen of the area for the joint study of fire control problems, exchange of ideas and the fostering of closer cooperation between all departments. Closely tied with this is the desire to effectuate a mutual aid system between the towns. A committee has already been appointed to take the necessary steps to accomplish this. Future meetings of the group will consider fire drills and demonstrations.

The new Association's officers are: Chief David A. Sleeper, Bar Harbor, president; Chief Gayland Redman, Bucksport, vice president; Chief Lawrence Flye, Northeast Harbor, secretary and Chief George Partridge, Ellsworth, treasurer.

NEW ENGLAND CHIEFS HOLD TWENTY-SEVENTH CONFERENCE

Record Attendance and Outstanding Program Feature Annual Meeting

A Staff Report

THE New England Association of Fire Chiefs held their 27th Annual Convention June 21, 22, 23, under ideal weather conditions, at beautiful Wentworth-by-the-Sea, Portsmouth, N. H. There were 628 registered delegates and many score unregistered visitors to make this one of the association's most successful gatherings.

Taking its cue from the interest shown by delegates of the 1948 conference in audience participation panels and symposiums, the business sessions this year were almost entirely given over to them, with only the minimum number of lecture-topics. The subjects covered in the panels, one of which was held on the evening of the 21st, were all of timely importance to New England's fire forces.

As usual, also, the Association had a busy calendar of social activities, particularly for the ladies, who were in larger numbers this year than ever before. Nor were the manufacturers and distributors of fire equipment forgotten. Their displays were located in the exhibit hall adjoining the Hotel Wentworth.

The Conference was opened by president William H. Hill, of Belmont, Mass., in the hotel ballroom. The invocation was given by Rev. Michael F. Collins, Chaplain of the Association. The members and guests were welcomed by Major Kennard E. Goldsmith, military aide-de-camp to New Hampshire's Governor Sherman Adams, Mayor Cecil Neal and City Manager Edward C. Peterson, of Portsmouth, N. H. Also extending welcome were Chief Chester T. Robinson, Suncook, N. H., president of the New Hampshire Fire Chiefs' Club; Fire Chief George T. Cogan of the Portsmouth, N. H., Fire Department, and Chief Haven W. Johnson, Newcastle, N. H., Fire Department.

Chief Henry G. Thomas of Hartford, Conn., delivered the response to the addresses of welcome, after which simple but stirring memorial exercises were held for the departed. These included vocal selections by the Chapel Quartette; Roll Call of the deceased and taps, played by a Marine bugler. The formal memorial address was delivered by the Rev. John P. Fitzsimmons, Pastor, Plymouth Congregational Church, Belmont, Mass., who also gave the benediction.

Almost the entire afternoon of Tuesday, June 21, was given over to Round Table discussion conducted by Chief Roi B. Woolley, assistant editorial director, FIRE ENGINEERING, and participated in by fire chiefs, fire protection engineers and others from all six states represented by the association membership. It was pointed out that New England fire chiefs came naturally by the "forum" and "round table" type of meeting by virtue of their ancestors' participation in the town meetings and "hot stove" sessions. New England also today is vitally concerned with preventing and controlling fire, the chairman emphasized because its very economic security depends upon retaining its existing industries and natural assets, threatened by economic extinction as well as destruction by fire.

The first topic discussed developed lively debate on the hazards of plastics of all forms, with emphasis on Christmas lighting ornaments. Members of the Association were urged to overhaul local ordinances and bring them into line with present-day hazards in this field. There was much sentiment expressed for group action to prevent production of hazardous plastics at the source as well as their sale over the counter.

The hazards of television were reviewed and it was brought out that a number of fires have been reported caused by the television magnifiers used to increase the screen image. Most of these fires have occurred in show windows, where the sun's rays, concentrated through the magnifiers, ignited combustibles.

Led by Chief Stuart Potter, Greenwich, Conn., members discussed possible ways to improve water supplies for fire fighting. Comparisons were drawn between public and privately controlled water departments and emphasis placed on the need of better distribution of supply, also of improving static supplies in areas not served by mains. The Association has a committee to which this problem will be referred.

The hazards of fluorescent tubes will be ended, it was disclosed, as soon as the nation's leading tube manufacturers get into production on the new type tubes which do not include the beryllium phosphor. Production of the old types ceased June 1, 1949, although it will be some time before all old hazardous type tubes are off the market.

The uses and advantages of small hose were discussed in some detail, with attention given the importance of small hose used in conjunction with respiratory breathing equipment water fog and wet water in making fast, coordinated attack on fire. The discussion disclosed the widespread use of water fog, and the growing interest in wet water as well as the need of effective proportioners.

"Should Fire Insurance Companies Organize a General Inspection Bureau?" was the subject of a paper by Kenneth H. Erskine, Local Mgr., Liverpool & London & Globe Insurance Company.

For the first time in its history, the Association conducted an evening Round Table. This was directed by A. C. Hudson, secretary, New Hampshire Board of Underwriters, the topic being "What Has Been Done to Reduce the Threat of Devastating Forest Fires in New England." The speakers included representatives of the forestry service of the six New England states.

Other topics included in the evening session were: "Relation of the State Fire Marshal to the Fire Chief" by Everett I. Flanders, Fire Marshal, Commonwealth of Massachusetts; and "Atomic warfare" by Lieut. Col. David B. Parker, Army General Staff, Washington, D. C.

Illness in his family prevented Chief Andrew T. Callahan, Harrison, N. J., from personally delivering his paper on "What Can Be Done to Provide Greater Safety in Our Schools." His address was summarized in his absence by Chief Roi Woolley of FIRE ENGINEERING. Mr. Percy Bugbee, general manager, National Fire Protection Association, described the recent conference of the NFPA in San Francisco; Mr. F. B.

Newly Elected Officers and Directors of the New England Association of Fire Chiefs

Front row seated: Chief Joseph E. Scanlon, Lynn, Mass., Second Vice-President; Chief William H. Hill, Belmont, Mass., Past President; Chief Stuart M. Potter, Greenwich, Conn., President; John W. O'Hearn, Watertown, Mass., Secretary-Treasurer, and Chief William H. Clifford, 3rd, Cape Elizabeth, Maine, First Vice-President. Second row: Chief Anthony J. Molloy, Concord, N. H., Director; Chief A. J. Cote, Woonsocket, R. I., Director; Chief Alfred H. Koltonski, Rutland, Vt., Director; the Rev. John P. Fitzsimmons, Belmont, Mass., Chaplain; Chief George C. Graham, Bristol, Conn., Director; Chief Oliver T. Sanborn, Portland, Me., Director, and Chief Thomas H. Slaman, Wellesley, Mass., Director. Standing in the rear: Andrew P. Palmer, Woonsocket, R. I., Director, Press Relations, and Chief William J. Dooling, Hood Rubber Company, Watertown, Mass., Sergeant-at-Arms.

Philbrick of The Gamewell Company, spoke on "New Improvements in Fire Alarm Transmission Equipment" and Chief Henry Thomas of Hartford delivered a forceful paper on "Techniques for Forcible Entry in Modern Construction," Tempered Glass, Glass Blocks, etc." Chief Thomas dramatized his subject by showing how medium-thick tempered glass may be shattered by striking it on its edge, whereas when struck on its face it will withstand severe shock. He offered Deputy Chief Hugh Halligan, New Fork Fire Department, inventor of a forcible entry tool, an opportunity to show how a pointed instrument may be used to break a glass block. Chief Halligan demonstrated successfully—but on the hotel veranda, with members remaining at a safe distance.

Cocktail Party and Banquet Big Success

This year the Association staged a cocktail party as prelude to the annual banquet which was attended by over 600 delegates and ladies. The toastmaster was former Chief Selden R. Allen, Brookline, Mass. Guest of honor and keynote speaker was the Hon. Sherman Adams, Governor of New Hampshire. Another guest, Captain Geraldo T. da Silva, fire officer of São Paulo, Brazil, was presented to the delegates and spoke to them through John Neves of the hotel staff, as interpreter.

During the banquet many attractive gifts were given to members of the Association and others.

The Association also followed its time-honored practice of presenting registrants with prizes on the afternoon devoted to the exhibits and demonstrations of equipment and apparatus.

Business Sessions—Potter Elected President

Chief Stuart M. Potter of Greenwich, Conn., was unanimously elected president for the coming year. Other officers named were Chief William Clifford 3rd, Cape Elizabeth, Me., first vice-president; Chief Joseph Scanlon, Lynn, Mass., second vice-president; John W. O'Hearn, Watertown, Mass., (re-elected) secretary-treasurer; Rev. Michael Collins, Marblehead, and Rev. John B. Fitzsimmons, Belmont, Mass., Chaplains; Chief William Dooling, Hood Rubber Company, Watertown, Mass., sergeant-at-arms.

The delegates voted unanimously to return to the Hotel Wentworth-by-the Sea, Portsmouth, in 1950. Out-going president William H. Hill was presented with a handsome traveling case by the Association, the testimonial presentation being made by former chief Samuel Pope of Boston.

New England Division of International Also Meets

On the 22nd, Chief Paul P. Heinz, president of the New England Division, International Association of Fire Chiefs, many of whose members are also active in the New England Association of Fire Chiefs, called the annual meeting of his group into business session, which included election of officers for the coming year. About 200 were in attendance.

Diesel-Powered Fire Truck at Columbus, Ind.

Diesel Pumper Passes Tenth Year

The first Diesel-powered fire truck in the United States, a Stutz triple combination pumper, powered with a Model HBS-600 Cummins Diesel engine, has completed 10 years of operation for the Columbus, Ind., Fire Department without missing a run.

During 10 years of operation, the engine also established records for fuel economy. For example, in 1945 the truck made 210 runs and used 95 gallons of diesel fuel for a total fuel cost of $931. In another year, the truck made 200 runs on 90 gallons of diesel fuel for a fuel cost of only $9.09.

According to a statement by Chief E. H. Kline, of the Columbus Fire Department, at one fire the Diesel-powered fire truck pumped four and one half hours with 90 pounds nozzle pressure on three lines of hose, using four gallons of diesel fuel for a cost of 39 cents.

The Diesel powering the Stutz pumper is a six cylinder engine with a 4⅞" bore, 6" stroke, and piston displacement of 672 inches. It develops 200 maximum hp at 1800 rpm. Top speed of the fire truck is 65 mph.

As Chief Kline says, "The Diesel is started with two 12-volt batteries, and starts easily and quickly in any kind of weather." The engine is a full diesel, starting on diesel fuel, and employing no auxiliary helping units.

The transmission used provides five speeds forward and two reverse. The wheel base of the truck is 171 inches, and the width 96 inches. Brakes are four wheel hydraulic equipped with a booster. The specially built chassis and hose body has a capacity for 1,200 feet

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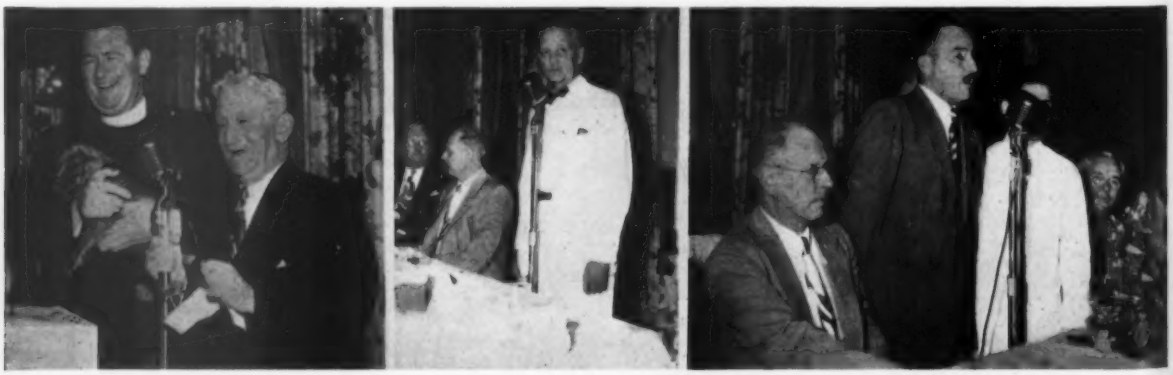


Snapped at the New England Convention

Left: The Rev. Michael Collins, Chaplain of the Association, wins a pup at the banquet. Toastmaster Selden Allen made the presentation. However, the priest had to surrender his prize as it was "lifted" from a guest's room without the owner's knowledge, Chief Al Koltonski being the master of the pup. Center: Governor Sherman Adams of New Hampshire speaks to the banquet gathering. To the left of him are Chiefs Anthony J. Molloy of Concord, N. H., and Chief William Hill of Belmont, Mass. Right: Speaking from the head table is Chief Geraldo Theadoro da Silva of Sao Paula, Brazil, as he addressed the banquet in his native tongue.

Massachusetts Firemen May Display Red Lights

Effective next August, Massachusetts firemen, call firemen and forest wardens may display red lights upon their private vehicles, according to a new Act passed by the State Legislature May 9, 1949.

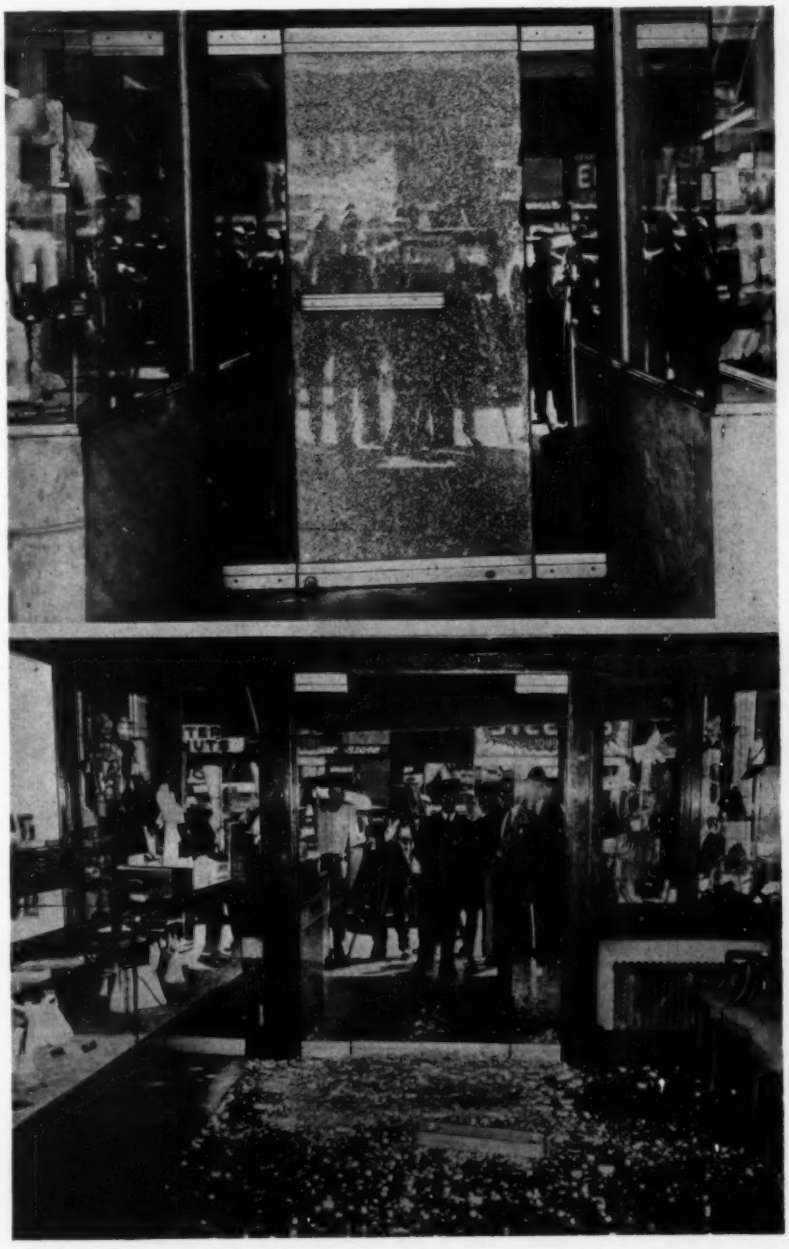
The new statute reads as follows:

CHAPTER 266, ACTS OF 1949

An Act Relative to the Display of Red Lights upon Vehicles Owned and Operated by Firemen, Call Firemen and Forest Wardens.

Chapter 90 of the General Laws is hereby amended inserting after section 7D, inserted by section 2 of chapter 216 of the acts of 1947, the following section: SECTION 7E. The provisions of section seven notwithstanding, a vehicle owned and operated by a fire ward, forest warden, deputy forest warden, member of a fire department of any town, but not a city or call member of a fire department may have mounted thereon a red light which may be displayed in the direction toward which the vehicle is proceeding or facing only when such owner and operator is proceeding to a fire or in response to an alarm and when the official duty of such owner and operator requires him to proceed to said fire or to respond to said alarm, and at no other time. No such red light shall be mounted or displayed on such vehicle until a written permit therefor, in form approved by the registrar, has been issued and delivered to the owner and operator by the chief of the fire department or the board of fire engineers of the municipality, or by the chief or chief engineer of the fire district, respectively, wherein the owner and operator resides and has his primary official duties as fire ward, forest warden, deputy forest warden, member or call member of a fire department. Any person operating a vehicle upon which a red light herein authorized is mounted shall have the permit for said light upon his person or in the vehicle in some easily accessible place. Such permit shall be revoked by the issuing authority upon written request of the registrar, or when the holder thereof terminates the duties which warranted the issuance of the permit, or for unauthorized use of such light, and a permit shall not be reissued to the same owner without the written consent of the registrar. Upon revocation of his permit, the owner and operator shall forthwith deliver it to the issuing authority and remove the red light herein authorized from his vehicle. The person or board issuing such permits shall forthwith give notice to the head of the police department of the municipality and to the registrar of the name, place of residence and address of each person to whom such permit is issued and the name of the maker, the engine number and the registration number of each vehicle upon which the red light is to be displayed, and said person or board shall certify under penalties of perjury that each person to whom a permit has been issued is a duly authorized fire ward, forest warden, deputy forest warden, member, or call member of a fire department. Like written notice shall be given immediately by the issuing authority of each permit revoked and of the receipt thereof. Annually, on or before July first, said person or board shall deliver to said head of the police department and to the registrar a list of all permits outstanding and unrevoked containing the information and certification hereinbefore required. Nothing in this section shall authorize any owner or operator to disregard or violate any statute, ordinance, by-law, rule or regulation regarding motor vehicles or their use on ways of the commonwealth. Approved May 9, 1949. Effective August 7, 1949.

Before permits are issued, a questionnaire form must be filled out by the applicant, giving his name and address, type and name of vehicle, engine and registration number, and stating his status as a fireman, and the name of the department. It must be countersigned by the issuing officer. The light must not be displayed when returning from duty nor by anyone other than the person authorized. All traffic laws must be obeyed, and unauthorized use is subject to penalty.



Tempered Glass Door Disintegrates

Fire Department officials at Erie, Pa., are at a loss as to the cause of a mysterious "explosion" of a four-by-seven-foot tempered glass door at the Nisley store, 1010 State Street, Erie, Saturday night, June 11. The shattering produced the honey-comb effect shown in the upper photograph. Although but a few fragments of glass fell out, the distintegrated panel was considered a menace, and had to be destroyed. This was accomplished by hitting it lightly with a claw-hammer. The lower photograph, taken from inside the store, shows the snowlike pile of glass after it had crumbled from the blow. There was nobody in or near the store when the door first cracked into tiny pieces. The photographs and data were furnished through the courtesy of Chief L. P. Scully of Erie.

Two Volunteer Firemen Killed by Asphalt Blast

Terrifying explosions and roaring fire wrecked the half-million dollar asphalt plant at the California Refining Company, Perth Amboy, N. J., June 23, 1949, causing death to two volunteer firemen and a company employee, and injuries to eight others, including two firemen. Two of the injured are on the critical list.

The two firemen, Lawrence Dambach, 52, and Howard Adams, 35, who perished, were engulfed by flaming hot asphalt when a tank took off shortly after 3:00 P.M. The company employee received fatal burns in an earlier blast.

Perth Amboy's entire fire department, aided by plant employees, fought the fire for five hours before controlling it. They were aided also by crews of fire control specialists from the nearby Shell Oil Company and American Oil Company at Carteret. Fire fighters from Woodbridge, and first aid squads from neighboring areas, together with the disaster unit of the Perth Amboy General Hospital, comprised of 15 doctors and 30 nurses, were in action.

According to Second Assistant Fire Chief Alex Pietraska, of the Perth Amboy Fire Department, who himself had a narrow escape from death, when firemen arrived at the plant it looked as though a bomb had dropped on it. Hair and eyebrows were singed as the men hooked up lines and advanced through slime and melted tar to reach what appeared to be the center of the fire. Adams and Dumbach were on a foam nozzle, about five feet ahead of Howard Adam's brother, Harry. The Chief was about five or ten feet behind Harry and both were lighting up the line for the men at the pipe.

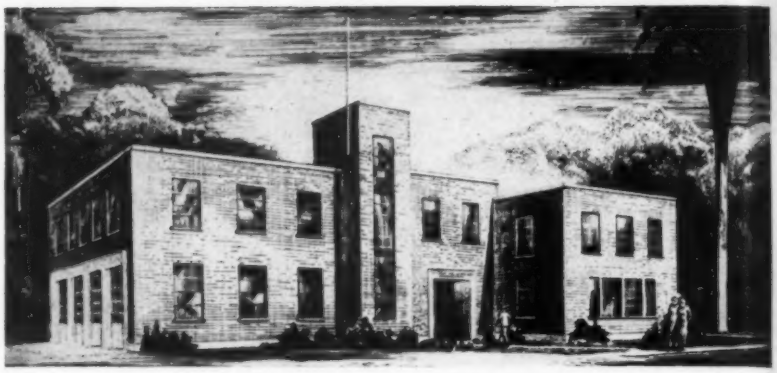
The first two men got in between two tanks which were described as steaming, spitting and whistling and they trained their stream on the center of the fire. Suddenly there was a whine like the noise associated with the dropping of a bomb. Chief Pietraska yelled to the men to get back, as it looked as if a tank was going to blow. As the chief and men began to run, there came a terrific blast, which caught the two nearest men. Howard Adams and Dumbach were thrown into a three-foot deep pit filled with molten asphalt and burned to death.

Large quantities of foam were employed in controlling the blaze, which at times threw fire hundreds of feet into the air. The column of black smoke could be seen in New York City, 25 miles distant.

Numbers of fire fighters had narrow escapes fighting the treacherous flames, several of them being badly burned by the flaming tar and hot asphalt. First aid units treated many at the scene; the Avenel-Colonia Emergency Squad and Woodbridge Emergency Squad and local ambulances hauled victims to the hospital.

The cause of the fire, which caused damage estimated at $500,000, was not immediately determined and is being investigated. At least eight of the 500-barrel tanks containing various types of volatile liquids exploded. The first explosion occurred about 2:00 P.M. and was followed by a flash fire which raced to adjoining stills and blending and storage tanks until it engulfed the entire sprawling plant. Four tank cars and a truck were badly burned. The fire was under control by 6:00 P.M. and out at 9:00 P.M.

The plant was the scene of a previous fire. A year ago, also, two Philadelphians in a small plane crashed against an oil tank at the same plant and were killed.



New Beverly Central Fire Station and Signal Building

Construction of the new $300,000 Central Fire Station and Signal Building for Beverly, Mass., is under way. The completed 4-door structure replaces the old 3-door brick headquarters and will follow closely the architect's conception, above. The alarm headquarters will be housed in the ell at the right. The main building will house apparatus on the first floor and dormitories, offices, showers, a kitchen, record room and recreation room on the second floor. The central tower is a stair well, not a hose tower. Hose will be dried in the basement.

Two Die as Tanks Explode. Smoke Billows Skyward from Flaming Storage Tanks Containing Asphalt and Oil at the Waterfront Plant of the California Refinery Co., Perth Amboy, N. J. Two Firemen Were Killed and Six Injured Fighting the Blaze

Charlotte, N. C., Starts Replacement Program

A plan of gradual replacement of the ten Charlotte, N. C., fire trucks, each of which is twenty years or older, is being undertaken by city officials.

The plan will necessitate annual appropriations over a period of years, starting immediately.

City Manager Henry A. Yancey recently discussed the plan with Fire Chief Donald S. Charles. They agreed that the antiquated fire-fighting apparatus must be replaced with up-to-date equipment. A new pumping outfit cost $18,000, and aerial ladders from $30,000 to $35,000. It is understood that all 10 of the fire truck outfits cannot be replaced at one time. Already Chief Charles has asked that an appropriation be made in July, to buy one aerial ladder, and one pumper, which will be assigned to the West Fifth Street Station, covering the hotel and apartment house area of Charlotte.

It is proposed to ask an appropriation each month for one pumping unit until the outmoded equipment is replaced.

Both trucks at the No. 4 Station are 22 years old. One at Station No. 2 in Dilworth area, is 30 years old.

A truck in use at No. 5 is 26 years old; and the two in operation from the

Myers Park station, No. 6, are 22 years old and 20 years old.

Another 20-year-old unit at the No. 7 Station was assembled originally by the firemen themselves, using junked and rebuilt parts. D. G. SPENCER

Northwest Fire School Holds Record Session

The Twenty-First Annual Northwest Fire School was held in St. Paul, Minnesota in the State Office Building Auditorium, May 4, 5 and 6, with a record registration of 603, the largest in the history of the school. This school is sponsored by the State Fire Marshal Department of Minnesota. Minnesota towns represented numbered 153, and other states, twenty-five.

Speakers highlighting the program were Fred Shepperd, Editorial Director of FIRE ENGINEERING of New York, John P. Redmond, President of the International Association of Fire Fighters, Washington, D. C.; Richard C. Steinmetz, Chief Special Agent, Mutual Investigation Bureau, Chicago; A. W. Sullivan, of the American District Telegraph Company, New York; Emmett Cox, Field Officer of the Western Actuarial Bureau, Chicago; Robert Byrus, Fire Prevention Engineer, Iowa State College, Ames, Iowa, as well as many representatives of the fire prevention and fire fighting services of Minnesota, and neighboring states.

Greetings were extended to the assembly by the Mayor of St. Paul, Edward Delaney, Armand W. Harris, Commissioner of Insurance and Ex-Officio State Fire Marshal of Minnesota, Chief Alfred Bolstad of Saint Peter, and Chief H. J. Pass, of Shakopee, representing the Minnesota State Firemen's Association, and the Minnesota Fire Chiefs' Association, respectively.

A stirring address was presented to the assembly on May 5, by Governor, Luther W. Youngdahl of Minnesota, and the entire afternoon of that same day was devoted to the conducting of drill practice with pumpers, hose layouts and ladder raising, at the St. Paul Fire Department Drill Yard, in which firemen from all parts of the state participated. Execution of this portion of the program was under the direction of Assistant Chief, Alfred Peterson, in charge of Firemen's Training of the St. Paul Fire Department, and Superintendent of Instruction, Rudolph Tersch, Minneapolis Fire Department, assisted by members of both departments.

Leonard C. Lund, Deputy Commissioner, Fire Marshal Division, is Program Director, and Chief William L. Murphy of Caledonia, is Chairman of the School.

British Firemen Have X-Curricular Problems, Too!

"Call the fire department" appears to be just as much the universal answer to meeting emergencies of all kinds in Great Britain as it is in the United States. For example, we quote from an item in the March, 1949, issue of "The Fireman" published in London.

"The fireman, like the sailor, is expected to turn his hand to anything, and during the last few weeks he has given interesting demonstrations of his versitality in various parts of the country. In Kent some 48 pumps were engaged in fighting floods, while in Yorkshire the Malton fire brigade traveled hundreds of miles pumping water to villages suffering from drought At St. Helens a collie dog was rescued from a roof, and bit three firemen so severely that they needed hospital attention. Near Folkstone, firemen rescued six ducks from a tunnel into which they had swum, but could not get back owing to the strength of the current. Middlesbrough brigade was called out to a fire in a stew pan which had run dry. Manchester firemen turned out to quench some burning waste used in an experiment at the Manchester College of Technology, and Kesteven fire brigade set fire to Diesel oil on Grantham canal, to prevent it finding its way into the boilers of a nearby factory, using foam jets to keep the flames under control."

New York Firemen Control Smoky 3-Alarm Blaze

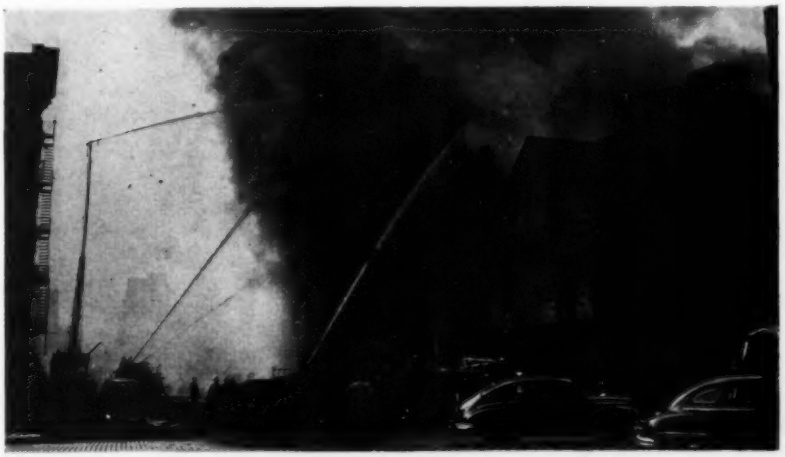
A spectacular fire that had all the makings of a conflagration on New York City's lower East side, June 4, 1949, was held to the upper stories of a six-story brick structure by the effective work of a three-alarm assignment of fire fighters.

The building, which occupies the block from Cherry Street to the East River, near the Manhattan Bridge is occupied on the ground floor by a lumber company and on the upper floor by dye works, a glue concern and paint company—a combination made to order for conflagration.

A watchman discovered the fire, cause of which was undetermined, shortly after 6:00 A.M. By 7:30 A.M. flames were shooting out of the upper windows. Fire fighters, summoned on three alarms, manning fifteen pieces of equipment, and operating heavy streams from the city's high pressure system, had the fire under control within 45 minutes of the first alarm, according to Chief Peter Loftus. It was some time later, however, before men were able to work in on the upper floors to overhaul the combustible stocks.

Early in the blaze a number of muffled explosions occurred, but although firemen swarmed all over the structure, only one firemen was injured by falling debris, and he only slightly.

Damage was estimated at $100,000. The column of smoke sent up by the fire, and the response of the numerous pieces of apparatus brought a large crowd to the scene, which was handled by regular and extra police of the Old Slip Station.



Photos by Ed Heavey

Top: Clouds of Smoke Darken the Scene as Blaze, Marked by Explosions, Ravages the Six-Story Structure at 219 Cherry Street, New York, Near East River. Bottom: Confine, Control and Extinguish! New York City Firemen Aptly Demonstrate the Old Axiom at Three-Alarm Blaze. Note Fire Surrounded on Every Side by Heavy Streams

Southeastern Chiefs Meet

The annual meeting of the Southeastern Association of Fire Chiefs was held at Jacksonville, Fla., on May 2, 3 and 4.

An outstanding technical program of fire service topics was the highlight of the meeting, with an even dozen thought-provoking papers presented by speakers from Washington, New York and Chicago, as well as from within Southeastern's own area. Taking a little time out for recreation, the delegates were afforded a pleasant cruise around Jacksonville's extensive water front on board the newly acquired fireboat, the "Richard D. Sutton" which has been named for the incumbent Fire Commissioner.

The meeting was not without a note of sadness in that Host Chief G. E. Hare was confined at home by illness. Deputy Chief J. B. Chancey substituted for him.

At the business meeting, announcement was made of an intended amendment to the Southeastern's Constitution, to be presented for ballot at the 1950 Conference, providing for Active Membership in the SEAFC for all fire officers above the rank of Captain. Related to the action was a recommendation that similar action be taken by the IAFC.

Augusta, Ga., was selected for the 1950 Conference.

At the close of the session, a new slate of officers was elected as follows: President: Chief R. O. Noble, Cordele, Georgia; 1st Vice-Pres.: Chief J. N. Farmer, Petersburg, Va.; 2nd Vice-Pres.: Chief W. B. Sykes, Portsmouth, Va.: Secy.-Treas.: Chief W. W. Stephen, Anniston, Alabama; Director—IAFC, Chief R. O. Noble, Cordele, Georgia.

Chief R. O. Noble

Chief J. N. Farmer

Southeastern Association Advocates Sprinklers

At its recent convention in Jacksonville, Fla., the Southeastern Association of Fire Chiefs adopted a Resolution advocating the installation of sprinkler systems and fire escapes for all buildings used for housing purposes, not constructed as a Type 1 building under NBFU classification.

The Resolution reads as follows:

RESOLUTION

WHEREAS, the Southeastern Association of Fire Chiefs feel it to be their responsibility to call to the attention of those in authority and responsible for the housing and maintenance of housing facilities provided in the several southeastern states for the accommodation of humans in the public charge, certain requirements consistent with the protection of life and property; and

WHEREAS, the Southeastern Association of Fire Chiefs is cognizant of the fact that many public buildings used through the southeastern states are inadequately constructed, equipped and maintained to provide the maximum fire protection for the occupants of such buildings; now, therefore,

BE IT RESOLVED by the Southeastern Association of Fire Chiefs, in conference assembled, that the following recommendations be respectfully made:

1. That all public buildings used for housing purposes which are not constructed as a Type I building under the classification promulgated by the National Board of Fire Underwriters, which are two stories or more in height, be equipped with automatic sprinkler systems and fire escapes constructed and maintained in accordance with the requirements of the National Board of Fire Underwriters.

2. That all buildings having basements and used as hospitals, irrespective of the type of construction of such buildings, be equipped with automatic sprinklers in the basement.

3. That at no time should individuals who are unable to assist themselves be allowed to remain in the halls of public buildings.

BE IT FURTHER RESOLVED that a copy of the Resolution be forwarded to the Governor of each state in the Southeastern Division.

BE IT FURTHER RESOLVED that a copy of this Resolution be forwarded to the County Commissioners Association of each state in the Southeastern Division.

BE IT FURTHER RESOLVED that a copy of the Resolution be furnished to the press for publication.

ADOPTED May 4, 1949 by the Southeastern Association of Fire Chiefs.

E. F. BEVILLE, *President.*

Recommended by Committee, D. W. BROSNAN, Chairman; H. R. CHASE, L. B. HILL.

Attest: W. W. STEPHEN, Secretary.

All Photos by Burton Wells

Chief Chase Presents Gift to Outgoing President E. F. Beville.

Harrison, N. J., "War Baby" Buffs Club Carries On

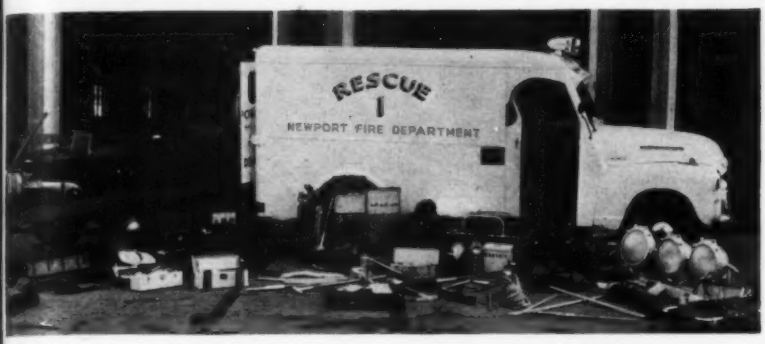
In Harrison, N. J., under the aegis of veteran Fire Chief Andrew Callahan, former president of the International Association of Fire Chiefs, there is the thriving "Three Alarm Club."

The Three Alarm Club is a "new old" aggregation of fire buffs which had its real origin back in May, 1942, when sixty auxiliary firemen, then affiliated with the Harrison Civilian Defense Organization, formed the Harrison Auxiliary Fire Force Association.

Frederick Nugent was elected president of that forerunner of the Three Alarm Club. Ably assisted by Chief Callahan, Fire Commissioner Michael Giordano, Deputy Chiefs Nugent and Baker, and Chief Instructor Thomas Coburn, the auxiliaries went to bat when the shortage of paid firemen threatened serious consequences in Harrison. Members were asigned to fire houses throughout the town and did part time fire duty, riding apparatus and performing all the work of the regulars, for which work they were thoroughly trained.

It was a busy first year for the

(*Continued on page* 525)



Elks Present Newport New Rescue Unit

The Newport, R. I., Fire Department, Chief Abel S. Eldridge, is the proud possessor of a smart new rescue truck, the gift of the Newport Lodge of Elks. The unit boasts rescue and first aid equipment ranging from finger ring cutters to ten-ton hydraulic jacks, and replaces an old converted fire truck which has served since 1934. From 5 calls that first year, Newport's rescue apparatus responded to 400 calls in 1948. Every member of the unit is trained in rescue work and in use of all equipment carried, including the lifeboat, with its outboard motor. This latter is towed behind the rescue truck when responding.

Three St. Paul Chiefs Die in Warehouse Fire

In one of the worst tragedies to strike the St. Paul, Minn., Fire Department, the chief and assistant chief, and a district chief were all killed during the concluding operations of extinguishing a flash fire in the warehouse of the Waldorf Paper Products Co., early June 9, 1949.

Their deaths came, ironically enough—but as so often happens in fires of such occupancy—after the fire was believed under control and when the men were engaged in what firemen consider the disagreeable but routine aftermath of a working fire.

The men were Fire Chief Edward Novak, appointed head of the department a year and three days ago; Assistant Chief Frank McMahon, in the department since 1918, and District Chief Harold Barck, a firemen since 1916. Three other firemen were injured: Frank Shypulski, Edward Bednar and Raymond Mitchell. The latter two were treated for smoke inhalation and exhaustion and allowed to go home; Shypulski, of Engine 23, suffered shoulder and hip injuries.

The men were caught in the collapse of a compartment wall constructed of cinder block, after a special alarm blaze in the main storage warehouse of the paper plant, on Vandalia Street just off University Avenue, had been brought under control about 1:00 A.M. The building held thousands of bales of waste-paper in fire-walled 30-ft. compartments. The warehouse structure is a block long and 75 ft. high, of concrete, cinder block and generally fire resistive construction.

Division Chief Barck headed three engine companies which answered the first alarm, and dispatched a call for additional forces when the extent of the fire, and the possibilities of its extension, were apparent. The additional alarm brought five more engine and other companies, and top officials of the department. Heavy smoke was coming from the second compartment at the east end of the long building.

Paper in that compartment was reported to be in 2,500 pound bales and firemen were warned to be on the lookout for possible expansion of the water-soaked bales which might push out the walls.

After more than an hour of fire fighting, Chief Novak told newspaper reporters it appeared that the blaze was under control. Chief McMahon had directed the work of closing off the fired bin, and he led Novak and Barck into the room for an inspection. Suddenly, without warning a section of wall fell, releasing thousands of tons of water-logged paper into the room catching the three chiefs and burying them under water-soaked waste, paper and concrete blocks, and partially trapping the other victims.

Novak and McMahon were reported struck by a reinforced section of wall about 10 x 4 ft., which had to be broken up before they could be extricated. Barck, a few feet away on a loading dock, was alive when dug from beneath the debris but died shortly after in Midway Hospital. The other officers apparently were killed instantly.

Firemen Mitchell and Shypulski escaped more serious injury because they were protected by a huge weighting scale. Immediately following the collapse, firemen dug frantically but systematically to reach the victims, but it was over an hour before all were removed from the wreckage.

Following a preliminary investigation, after the tragedy, Ralph Carney, chief of the Fire Prevention Bureau, blamed ill-chosen building material in the warehouse retaining wall for the accident. "If it hadn't been for concrete building blocks in the retaining wall, those chiefs would be alive today," he said. Ironically, the wall was erected at the insistance of the fire department, it develops, although the specifications were not those of the department, which has no jurisdiction in the matter.

According to Carney, the fire raged on the east side of a 55-ft.-high wall while on the other side cold water was being poured on it. The wall was built last year. It had two pilasters about 22 ft. apart with four vertical steel rods in the pilasters, filled solidly with concrete. In every other horizontal layer of 12 in. concrete building blocks were two reinforcing rods.

The wall collapsed in three sections, giving three "thuds" as they fell on wet paper. There were no explosions as at first reported. The shifting mass of wet paper tumbled on the three chiefs, burying them.

How the blaze started, at 11:24 P.M., has not been determined according to William Schader, fire department investigator, but spontaneous ignition and careless smoking were considered among the possibilites.

The last firemen left the scene at 12:34 P.M., Thursday the 9th. The damage was estimated at about $50,000.

The Waldorf Paper Products Company has been plagued with fires. Since 1928, the fire department has made 58 runs to the plant. In eight fires in the last 13 years it suffered loss of more than $300,000. A special-alarm blaze on Nov. 27, 1936, caused loss of $5,000 when fire of unknown origin swept through a ventilating shaft and damaged machinery. On May 12, 1938, two firemen were overcome in a fire in 8,000 tons of baled paper but the fire loss was not heavy. On June 19, 1939, flames broke out in a ventilator shaft and shot through the roof of the mill division

(*Continued on page* 525)

Where the Collapsing Wall Trapped St. Paul Fire Fighters

Chiefs Novak and McMahon were standing in the upper right background, and Chief Barck, in the center background, when wall collapsed, burying them under tons of cinder blocks and watersoaked baled paper.

Short Cuts and Gadgets

RURAL FIRE-CALL MAPS

To cut time en route to rural fires in the six townships served by the Boone, Ia., rural fire truck, the Boone Fire Department has prepared file cards containing essential information which are kept at the city hall, where alarms are received.

The cards are numbered to correspond with numbers assigned to farms, elevators, schools and other property which the department is charged to protect in six townships served. In the event of fire, the cards help in this manner:

The property owner in calling the department need give only his file number. The firemen take his card, and follow a prescribed route, the shortest possible, mapped on the back of the card.

The face of the card tells the driver where the water is located—and the amount available at the scene. It also tells him any special factors to take into consideration, such as road conditions to expect in bad weather, dry weather shortcuts and so on.

The department has asked property owners to supply the information for the file at designated times, when the fire chief, E. G. Kolb, is on hand to record the data.

The townships served are Jackson, Des Moines, Worth, Colfax, Harrison and Dodge. The rural fire truck, purchased last fall, is maintained by taxation of owners in the townships served.

At Cedar Falls, where another rural fire truck is maintained, a somewhat similar card system is employed—the card containing the map of location, route to be taken, and in addition, equipment on the farm which can be used to assist the fire fighters in fighting the fire.

* * *

"DRY HYDRANTS"

Where water must be drafted from natural sources, the installation of the so called "dry hydrants" will overcome two of the most common problems encountered: namely, the difficulty in getting the apparatus close enough to the water, where the ground is soft or rough, and in the colder climates, the loss of valuable time clearing away the snow and chopping a hole through thick ice, during the winter months.

The installation shown in Fig. 1 is preferred; however, because of rock or other impediments, it may be impossible to make use of it. In such a case, the scheme shown in Fig. 2, may be used. This installation keeps the horizontal run of pipe above the water level, so that if the pipe is very long considerable time will be required to exhaust the air from the line when priming. During the winter months, to prevent freezing, the water must be displaced in the vertical rise of pipe by slowly pouring in a sufficient quantity of range oil to displace the water to a level well below the maximum thickness of the ice.

This "Dry Hydrant" Nearly Covered by Four Feet of Snow, Connects with the Pond Shown in the Background, and Provides the Only Water Available for Fire Protection in the Center of the Town of Berlin, Mass.

When taking draft from one of these installations, when loaded with oil, the first water should be discharged directly out of the pump, through an open discharge gate, rather than through the hose, because of the effect of the oil on the rubber of the hose lining, and the obvious effect of the oil on the fire. After returning to quarters, the suction hose should be thoroughly cleaned to remove any oil that may be left.

As a screen will deteriorate rapidly under water, a removable screen should be fitted into the discharge end of these installations.

HENRY T. HANSON

* * *

OVERHEAD ROLLING FIRE DOORS

From time to time we have quoted from the very excellent fire marshal's publications of the Headquarters of the Fifth Naval District, Norfolk, Va. A recent bulletin contained some pertinent information on overhead rolling fire doors which is worth passing on to our readers. Said the item:

"Overhead rolling fire doors are used where sliding fire doors are not practical due to space limitations (this of course is referring to the Navy practice). They have some deficiencies, the chief of which is the inability of the fire inspector to test them on routine inspection. Testing overhead rolling fire doors involves a working party, including a qualified mechanic to re-set the "fire spring." Recent random tests of over head rolling doors disclose an unsatisfactory condition. One or more of the following points contributed:

Fusible links painted.

Door runners, guides and overhead metal covers were found sprung and bent out of shape.

Door chains holding fusible links found to be too short.

Release chains adhered to the overhead covers because of repeated applications of paint.

Clutch gear and pawl release mechanism frozen because of solidifying of clutch grease.

It is important that the mechanic participating in the tests be fully qualified, since after the door is tested and re-set, there is no way of checking its readiness for operation short of making another complete test.

It is recommended that overhead rolling fire doors be tested annually—or semi-annually if at all practicable."

* * *

The Old Timer Says—

The days when a fireman who wore a "gas mask" was considered a sissy are past. It's better to be a "live sissy" and come out of a stinker in good shape, than to shove in without respiratory protection and 'take it"—and come out a dead hero!

* * *

REMEMBER THE NUMBER!

Concerning the suggestion made in "Short Cuts and Gadgets" some time ago, that fire vehicles display the "fire phone" number on apparatus, Mr. James H. Fairbrother of Roosevelt, N. Y., writes "To chiefs who . . . wish to impress a telephone number on the public, I would suggest they place it in bold letters on the sides and rear of all cars and apparatus.

"For some years the Nassau County Police (N. Y.) have lettered all patrol cars, "CALL GARDEN CITY 1000" until now the number is well known throughout the 274 square miles of the county."

FIG 1

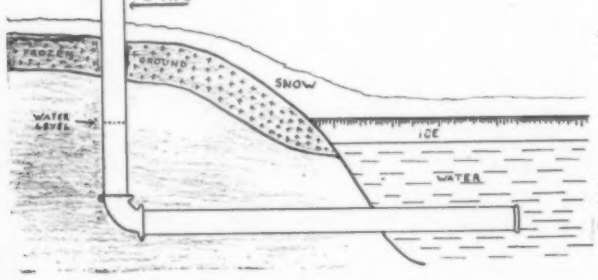
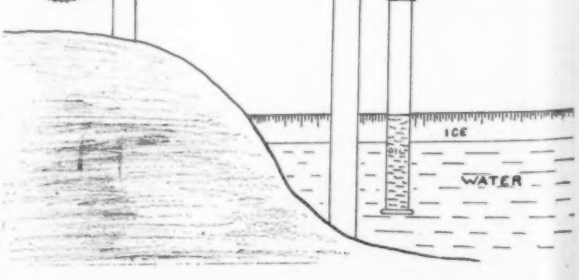


FIG 2



The WATCH DESK

Overhauling the firemanic news of the day

by ROI B. WOOLLEY

A Real "Hot Seat"

Some years ago the Watch Desk chronicled a "Ripley" about a toilet seat fire that gave the Braves trouble—and it wasn't a Chick Sales seat either.

Now comes another account of a "hot seat" in a hotel. By request some of the source of this episode is withheld but the facts are unimpeachable.

The hotel bathroom toilet seat had recently received a plastic refinish. No one seems to know of what material the seat was made or when or where it was purchased. All that is known is that the particular seat had lately received a plastic recoating and burned!

A guest reported she dropped a lighted cigarette on the seat and the outcome is described as a "good, old-fashioned celluloid fire" that ignited nearby bath linens and "smudged up the bathroom so badly it had to be done over."

In the effort to get at the cause of the fire, investigators tried to simulate the blaze by exposing other refinished seats to cigarette burns but nothing happened. Nor would concerns in the plastic field hazard a guess at what happened. Everyone connected with the case was left mystified.

A statement by a noted hotel fire protection authority based upon the logical deductions and his recommendations growing out of the study of this incident may be of interest to our readers. Of the cause, he writes:

1) The liquid plastic refinishing coat used on the seat had either a pyroxylin or a cellulose nitrate base which, when it became hardened, had a "celluloid" finish.

2) As such it was highly flammable.

3) From what actually happened it is evident that after the coating had been applied it did not receive "flameproofing" treatment. If it had it would not have ignited when directly exposed to the heat of the burning cigarette, nor would the burning have spread beyond a very small area.

4) Brownish-white gases and smoke given off by the burning "celluloid" finish were responsible for the manager's report that the interior of the bathroom was badly smudged.

5) If the quantity of burning plastic finish had been larger, the life of the woman-guest involved would have been seriously endangered because of the deadly carbon monoxide gases given off by the fire.

* * *

Only Trouble Seen in Auto' Video

Television became car-borne in October in Milwaukee, Wis., press reports state, and after one quick look, safety officials said they could see nothing ahead but trouble.

When an industrial research company installed a standard TV receiver in a stock car, Dr. B. L. Corbett, director of the city safety commission, said, "frankly this catches us off base."

"I don't see how in the world any driver could take his eyes off the road to watch a television program without risking his own neck and the necks of others," Corbett continued. Head of the city's Police Traffic Bureau added, "it doesn't sound so good." However, Robert Wright, installer, said he didn't think his experimental set would start a trend toward video-entranced drivers breaking miscellaneous necks. "It'll go best in the back seats," he said.

(Thanks, J. K.)

Looks like now cars may have another "back seat driver."

* * *

Hot Off the Tape

Fire Chief Richard G. Swope of the Ashland, N. J., Fire Department resigned in April because "he was tired of trying to wean his volunteer firemen away from the firehouse bar long enough to fight a blaze," he said. "Liquor and fire fighting don't mix," he added. "The fire company's morale has been ruined since the bar was installed." . . . The last straw came on a Saturday when four of his men walked away from a fire and two others refused to help fight it, Swope said. (W. A. McDonnell) . . . In Eastchester, N. Y., Eugene Brown knocked over a fire alarm box with his milk truck. He was treated for concussion after the crackup. Hauled to court, he said he didn't remember anything after the truck started skidding. When faced with choice of jail term or paying damages, Brown forked over $390. (Walter Backnecki). . . . Delayed report says all the equipment of the Hartsgrove, Ohio, Township Fire Department including a pumper and a chemical truck was destroyed in a fire following the explosion of an oil burner used for heating a garage—built by firemen from old box car doors. . . . In Detroit, Alice Stevens, 19, was badly burned when a can of cleaning fluid exploded while she was cleaning a dress. . . . In Alfred, N. Y., 30 volunteer firemen rushed from a firemen's training class a block away to apply hose-handling technique they'd been studying, to controlling a real blaze. (Fire was in a pile of old lumber that was gonna be destroyed anyway.) . . . George Collures, new chief of the Merced, Cal., Fire Department, issued an order May 13. He said he was tired of seeing firemen fighting a blaze one-handed. "When a man gets to a fire," he said, "he needs all the air he can get. He takes off his belt. Then he has to work with one hand and hold up his pants with the other." The new order: "Suspenders will be worn!" (Thanks to the many who shot in this item). . . . Orchids to Frederick A. Hayner, 35, of Glens Falls, N. Y., who remained at the wheel of his flaming gasoline tanker May 9th until he had driven out of Saratoga Springs to an open field about a mile away from built-up area. The flames caused slight damage and Hayner was uninjured—the gasoline did not explode. . . . Believe it or not, on April 7 last, chimney sparks ignited a bird's nest and started a fire on the roof of the Nathan Bernhardt farm home five miles south of Apple River, Ill.

Tuckahoe, N. Y., firemen of the Eastchester Fire Department, revived a two-year-old boy with a fire department inhalator after he had stopped breathing. . . . Firemen from Morton Grove, Ill., were called to an auto fire, where several fire-damaged safes were found, one believed stolen in a $5,000 holdup of an outdoor theatre. . . . In New York City, Acting Battalion Chief David J. Flynn en route to a fire June 2, 1949, found his own car was on fire. He hopped into a police radio car, reached the scene of a small blaze on W. 99th Street, then hustled back to complete the extinguishment job on his chariot. . . . Harry Etter, 32, cut his hand when he turned in a fire alarm for a basement fire in his house, in Chester Pa. He was treated at Chester Hospital. Two hours later, he was back in the Hospital. He was overcome by smoke when a second fire broke out in the kitchen of the first-floor apartment. . . . Two New York firemen, Walden Luna and Joseph Mungioli, Engine 16, seized a woman seated on a ledge of the roof of a five-story building on East 25th Street. Observers who noted the women perched precariously aloft notified the company, which responded and, while firemen prepared a net, the two firemen rushed to the roof and pulled the threatened suicide to safety. . . . Chicago firemen were called when a house, being remodelled, slipped off jacks, crushed a man and injured a woman. . . . A ton of dry ice was dropped into a burning anthracite mine near Girardville, Pa., where four miners lost their lives in a fire early in May.

* * *

Fire Chief's Business Burns—While He Burns!

Henry Urban is fire chief of a group of firemen of Harvey, La., near New Orleans. He also is proprietor of a cleaning shop. The chief, who resides 50 feet away from his shop, discovered it in flames one morning. He called the Marrero-Harvey Volunteer Fire Company for help—there being plenty of firemen but no apparatus, as yet—in his little community. The Marrero-Harvey Vamps hustled the three miles, but meantime the blaze had gotten such headway all they could do was to protect exposures. The plant was a wreck, with damage at $7,600.

Chief Urban—who had a swell fire force, but no facilities—was named to head a local organization of 68 members, which was presently engaged in raising funds for a fire station and unit of apparatus. The amount needed for the house had just been garnered when the fire dramatized the need of something more than volunteers-sans-tools. Now we're told the Marrero-Harvey Company has secured a new piece of apparatus and turned their old pumper over to the new group.

* * *

Higgins Has a Guardian Angel—Plus!

Clifford W. Higgins of Chicago, truck driver, has a guardian angel indeed. Late June 15, Higgins was piloting a truck loaded with several hundred cases of dynamite and nitroglycerine. He came to a rail crossing eight miles east of Tiffin, Ohio. At about the same time a fast New York Central passenger train approached the same crossing. There was the inevitable crash.

Higgins' vehicle was demolished. The train was disabled. The load of explosives was thrown over a wide area—but failed to detonate—Higgins, although scratched up a bit, was uninjured. Trainmen and passengers likewise came through the ordeal unscathed.

"There's a destiny that shapes our ends. . . . " It evidently just wasn't Higgins' time!

FALSE ALARMS

Virtuous

Having only recently moved into the district, she was determined to impress the neighbors. She arranged for a musical "At Home," and told her husband to see to the booking of a musician to entertain the guests.

"Have you engaged the pianist yet?" she asked her husband a few days before the great evening.

"Yes, my dear," he replied, "a great virtuoso."

She looked annoyed.

"Never mind about his morals. Can he play the piano?"

A small girl was taken to church for the first time. When everyone knelt, she whispered: "What are they going to do?"

"They are going to say their prayers," whispered her mother.

The child looked up in amazement. Then, in a loud voice, she exclaimed, "What, with all their clothes on?"

—Cape Argus

Celebration

A woman called up the editor of the local paper. "You know," she said, "we've subscribed to your paper for 40 years and I thought you might want to print a story about my husband. He's a wonderful man, doesn't smoke or drink, has always been a model citizen in every way. He's never used strong language and he's never once stepped inside a theatre or a movie house. In fact, he has no vices or bad habits. And tomorrow he's going to celebrate his 80th birthday!"

"How?" asked the editor.

In an Army hospital, one nurse warns another: "These are the dangerous cases. They're almost well!"

Der Deefrance

"Papa, vot is de deefrance bitween prosperity and depression?"

"Vell, my boy," papa replied, "in prosperity ve had vine, vimmen, and song, but in depression all ve got is beer, mama, and der raddio."

Marriage:
Love, Parsonified

Small Brother: "Ha, ha! I just saw you kiss sis."

Suitor: "Here. Keep still. Put this quarter in your pocket."

Brother: "Here's ten cents change. One price to all, that's the way I do business."

An eastern business man was spending his vacation at a rural retreat down in Middle Tennessee. The fishing in a private lake was wonderful. The wife of his host, a prosperous farmer, was an excellent cook. Each morning she served piping hot corn bread. The business man thought it was tops. But each evening he noted they sent a child out to "turn the chickens." This went on for two or three days and his curiosity finally got the better of him.

"What do you mean by 'turning the chickens?'"

"Oh," replied the farmer, "our chickens roost on the corn meal barrel. Each night someone must go out and make sure their heads are turned in."

Visitor: "Well, my little man, what is your name?"

First Boy: "Jule, Sir."

Visitor: "You should say Julius." Then turning to another boy: "Well, my little fellow and what is your name?"

Second Boy: "Billions, Sir."

A Hollywood mogul who had never learned to read or write had managed for years by signing his check with two X's. Then one day his banker called and asked: "How about this latest check? It seems authentic, but it has three X's."

"Oh, that's all right. My wife has social ambitions," was the answer. "She thinks I should have a middle name."

Astonished young husband: "What's the matter, dear? You look flustered."

Young wife: "I've had a dreadful day! Baby cut his first tooth. Then he took his first step. Then he fell and knocked out his tooth."

Husband: "Then what happened?"

Wife: "Oh, it's terrible—he said his first word!"

"What is the most beautiful thing in the world?"

"I say a beautiful woman is the most beautiful thing in the world."

"I claim that sleep is the most beautiful thing."

"Yes, next to a beautiful woman, sleep is."

No Peeking

"I suppose you've been in the Navy so long you're accustomed to sea legs?"

"Honest, lady, I wasn't even looking."

A newspaper offered a prize for the best answer to the conundrum: "Why is a newpaper like a woman?"

The prize was won by a woman who sent in this answer: "Because every man should have one of his own and not run after his neighbor's."

Minister (to a sweet young thing): "Would you care to join me in a new missionary movement?"

Sweet Thing: "I'm crazy to try it. Is it anything like the Rhumba?"

The Cure Was Obvious

The spinsterish lady looked acidly at the man beside her on the bus preparing to light his pipe.

"Sir," she said, "smoking makes me ill."

"In that case," said Hiram, poking another wad of Old Buttermilk Sky cut plug in his trusty trash-burner, "I'd give it up."

"Had a Quiet Day at the Firehouse. Even Managed a Few Hours' Nap!"

"MILLIONS WERE AT STAKE . . . WE HAD TO WORK FAST!"

says **CHIEF D. W. BROSNAN**
of Albany, Ga.

Gasoline had overflowed the tank of a loading fuel truck and caught fire. A 4-inch fiery stream was running downhill through a large bulk oil plant toward two 6-story factories.

Millions of dollars in property were endangered. We hadn't a second to lose. Quickly dozens of hose lines equipped with fog nozzles were swung against the onrushing stream of burning gasoline. Slowly we drove it back uphill . . . only to find that the gasoline supply tank had blown its manhole cover. Now burning gas was exploding high in the air. But, acting fast, we surrounded the tank with fogged water and succeeded in closing the valve with a pike pole. Thanks to quick-witted, daring personnel and reliable equipment, the fire was extinguished, millions saved, a catastrophe averted.

Let's swap Fire Fighting Stories like this one! . . .
What's your favorite? Send it along to us today!

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- ★ **Formula "X" for positive protection against mildew.**
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For Practical Discussion of Current Fire Department and Fire Management Problems

SAFEGUARDING CHURCH CONGREGATIONS

THE discussion in this Round Table is a continuation of that which appeared in the May and June issues of FIRE ENGINEERING on safeguarding church schools and congregrations.

The generous response from our readers makes it necessary to carry the discussion over to this issue.

Readers are invited to send in their comments on this subject or on next month's subject which is described in a box on a following page. Address replies to Round Table Editor, FIRE ENGINEERING, 24 West 4t0h Street, New York 18, N. Y.

Discussion of Question

E. P. Feaster, Chief Lincoln, Neb.: Our department makes inspections and recommendations to church authorities as to exits and means of egress for the safe exit of children who attend Sunday school and other activities in churches, which are usually held in the basement.

I do not believe that the safeguard to life is quite equal to that in public schools, due to the fact that the schools give more attention to fire drills and safety conditions than churches.

Flammable decorations, electric appliances, motion picture machines, spotlights, etc., are not permitted without proper safeguard, which is fully covered under our City Ordinance.

Churches are inspected four times a year by company inspectors in their districts and periodically by regular fire and electrical inspectors.

We find that some church organizations are not too willing to cooperate in correcting the hazardous conditions, probably due to the fact that they have a limited budget and have not the proper supervision and lack fire safety education.

Napoleon Guevin, Chief, Manchester, N. H.: We hold regular bi-monthly fire drills in all church schools. They are regularly inspected in the same manner as are the public schools.

We find safeguards to life in church establishments equal to those in public schools. We have a greater number of non-public schools. Conditions are good and the schools are fire conscious.

Hazardous conditions are not permitted. All schools, both public and non-public are treated alike and inspected regularly.

We have found that our church organizations are, in general, very cooperative and fire-minded.

Thomas H. Shipman, Chief, New London, Conn.: Our method of controlli life hazards in private schools a churches consists of regular inspecti and fire drills twice each year and larger assignment of ladder trucks all school boxes. In churches we i sist on an inspection by the Fire Ma shal before any assembly where de orations are to be used. All streame christmas trees or other flammab decorations must be flameproofed.

We find that safeguards to life private schools do not compare wi those of our public schools and t same is also the case in some of o churches. We believe this conditi was brought about by lack of adequa laws at the time the buildings we built or remodeled. Our new Sta Code covers these institutions now.

It was not our general pratice the past to make regular inspectio of this type of institution, but wi our new State Fire Safety Code effect it is now mandatory upon t Fire Marshal or his assistants to mak regular inspections twice each year.

We find that church organizatio are exceptionally eager to compl with any reasonable request that w make, and in every instance have im mediately complied with any orde we have issued. We do find that i

HERE IS THE TOPIC

1. What is the practice of you department in controlling th life hazards incidental to churc schools, Sunday schools an the congregating of other larg groups of children in churc structures for various activities
2. Do you find safeguards to lif in such establishments equal t those in public schools?
3. Are inflammable decorations electric appliances (motion pic ture machines, spotlights, etc., and other equipment whic may constitute a life hazar permitted?
4. Do your fire department in spectors cover these establish ments in their regular tour?
5. Have you found that church or ganizations are, in general, will ing to cooperate with the Fir Department in correcting haz ardous conditions?

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this city many of our massive stone structures are lacking in adequate exits and we have notified these organizations that they must be corrected, but due to the tremendous cost involved and their limited income in many instances, it is necessary that we go slowly in our demands in relation to the time required for completion in order that we do not create a hardship that is impossible for them to overcome.

Lloyd Layman, Chief, Parkersburg, W. Va.: We enforce regulations regarding adequate exits from this type of building. Sufficient width and unobstructed aisles must be maintained at all times. All exits must be plainly marked. We maintain personal contact with church authorities and point out to them any conditions which are unsafe or most likely to cause fire, and have such conditions corrected. We give lectures and demonstrations to various groups on fire prevention and fire safety.

We do not find safeguards to life in these establishments equal to those in public schools.

We recommend and suggest the use of only flameproof decorations at all times. Regarding other electrical equipment, we make recommendations for the proper installation of standard approved equipment.

Inspectors from the Bureau of Fire Prevention make periodical inspections of these establishments.

Here in Parkersburg we have had very good cooperation.

J. C. Sievert, Chief, Tucson, Ariz.: Churches are required to have the proper number and type of exits. They are not allowed to overcrowd rooms, must have exit lights over exit doors and are supposed to have the proper first aid fire appliances.

Safeguards to life in such establishments are not equal to those in public schools.

We do not permit flammable decorations and other equipment which may constitute a life hazard.

Our fire department inspectors cover these establishments in their regular tours.

In general church organizations cooperate, but some do not even try. We would suggest more rigid building restrictions, more frequent inspections by fire and electrical departments and stricter recommendations.

Frank Pulaski, Chief, Boise, Ida.: We have a Fire Prevention Bureau with three men on inspection duty at all times, and if any church has a large gathering, they can ask for a detail from the Fire Department.

In general, safeguards to life in church establishments are equal to those in public schools.

No flammable decorations are allowed, but we do permit 16 mm pictures.

We have found these organizations willing to cooperate with the Fire Department in correcting hazardous conditions.

W. G. Middleman, Chief, Burlington, Ia.: Frequent fire prevention talks, school fire patrols and attendance of off-duty firemen reduce the life hazard of gatherings of this type.

Public school safeguards are superior to private and church schools.

Hazardous decorations and equipment are not permitted.

Fire department inspectors cover everything but private dwellings on their regular tours.

Church organizations are very cooperative in following fire department recommendations.

H. R. Worley, Chief, Bristol, Va.: Our Fire Prevention Bureau makes a thorough inspection of all churches once a month. In most churches a safety committee has been appointed and works with us on all safety problems. We have had the very best cooperation from the churches.

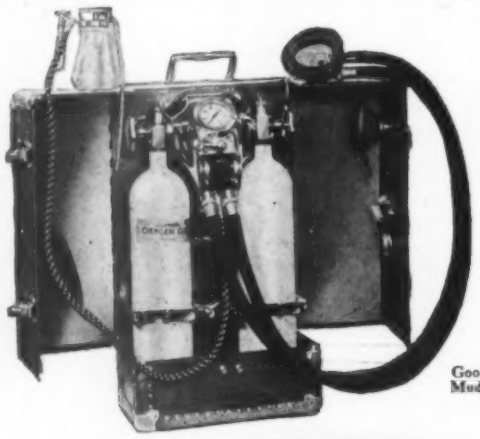
Safeguards to life in church establishments are not equal to those in the public schools, chiefly because of lack of finances. No flammable decorations are allowed. When candles are used, firemen are always on hand to see that they are used correctly.

During a large crowd at a service, firemen and safety committee members work together to see that exits are kept open and aisles clear. Where class rooms are too far from exits, fire escapes have been installed. Fire extinguishers are located in the boiler rooms and kitchen.

Again we say that the cooperation from the churches is the very best, and if all business concerns cooperated as well, our fire loss would decline considerably.

Frank L. Veasley, Chief, Cleveland, Ohio: Areas where such schools or groups congregate must conform to city and state regulations and requirements relative to the safety and welfare of the inhabitants.

In the case of new modern buildings, safeguards to life are equal to those in public schools. This is not so where the structures are old and built of wood.



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A recent survey of churches in our city resulted in the notification to these institutions to have all curtains, scenery and materials used for decorations flameproofed. I would say that results obtained were very satisfactory. Electric appliances and wiring are of course inspected at our regular check-up, which occurs at least twice a year.

In general, churches organizations do cooperate with the fire department in correcting hazardous conditions. There are cases, however, where financial conditions often slow up their efforts for 100% cooperation.

Norman G. Olsen, Chief, Charleston, S. C.: Regular inspections are made of church schools, Sunday schools, etc., to see that proper exists are provided.

We find safeguards to life in these establishments are equal to those in public schools.

We do not permit flammable decorations or unapproved electrical appliances.

We have had fine cooperation from church organizations in correcting hazardous conditions.

William D. Thomas, Chief, Binghamton, N. Y.: General inspections are made of church schools at various times throughout the year. We also hold fire drills in these schools at least twice a year. At times firemen are detailed to church schools for various activities, and at least one firemen is detailed to the various churches that hold services on Christmas Eve.

We have found that safeguards are equal to those of public schools.

Flammable decorations and electric appliances are not permitted.

The department inspectors cover the establishments mentioned in their regular inspections. In addition, each officer and member of the squad company inspect periodically all churches in the city so they will have a general knowledge of the church inside and out.

Church organizations are generally very cooperative in correcting hazardous conditions.

F. L. Crouse, Chief, Huntington, W. Va.: when called upon to assist in any activities of church organizations and give any advice, we are glad to.

Safeguards to life in churches in our city are adequate.

We do not permit to any great extent flammable decorations and electric appliances which may constitute a life hazard.

We cover our big churches in our regular tours of inspection.

We can say the church organizations are very cooperative and give great thought to our recommendations. We would like to see automatic fire devices or detectors in them, however.

C. W. Wyrick, Chief, Greensboro, N. C.: Fire inspectors cover church structures two or three times daily. Fire drills are also held. No flammable decorations are used in any way that we know of.

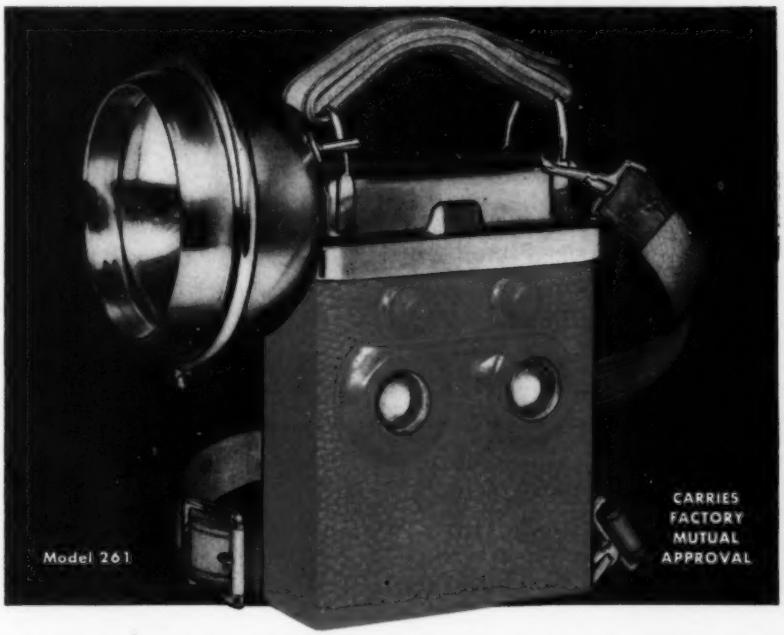
We do not find safeguards to life in church structures equal to those in our public schools, although we have found those in charge willing to cooperate with the fire department in correcting hazardous conditions.

Earl Toombs, Chief, Anderson, Ind.: Rigid inspections for the past few years have eliminated most hazards, in that fire escape have been in-

IN DARKNESS, DANGER AND DISASTER

Redesigned to FIRE DEPARTMENT SPECIFICATIONS

WHEAT FIREMAN'S SPOTLIGHT



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stalled, several means of egress have been arranged, and in unusual cases a firemen attends the gatherings.

We find safeguards to life in such establishments equal to those in public schools, except for the length of time involved in correcting hazardous conditions.

Flammable decorations, electric appliances and other equipment which may constitute a life hazard are permitted only under strict supervision.

Glen J. Davis, Chief, Beloit, Wis.: We maintain regular inspections of churches and during special programs firemen are assigned to help safeguard life and property. We find safeguards to life in such establishments equal to those in public schools.

State law prohibits the use of flammable decorations, electric appliances and other equipment which may constitute a life hazard.

Ira D. Leech, Chief, Decatur, Ill.: We make regular inspections of church structures and any hazards which are found are taken up with the officers and rechecked to our satisfaction.

We do not find safeguards to life equal to those in public schools as in church activities there are no regular fire drills or fire prevention programs.

Motion pictures are permitted to be shown but they are not permitted to be stored on the premises. Flammable decorations, electrical appliances, etc., are not permitted.

Regular inspections of churches are made twice a year or oftener if requested.

We found that church organizations are very willing to cooperate.

A. McC. Marsh, Chief, Columbia, S. C.: The practice of this department is virtually the same and equal to that governing public schools, public and semi-public assemblage. The controls originate from the fire regulations and the building code.

Flammable decorations, electric appliances, etc., are permitted only when the fire officials are consulted. If and when candlelight services are held, a fire inspector is in attendance.

Church establishments are regularly inspected at least four times each calendar year. Fire drills and lectures are given at intervals.

We have found these organizations most cooperative in correcting hazardous conditions.

J. R. Dorrell, District Chief, Bureau of Fire Prevention, Little Rock, Ark.: We insist that open aisles and corridors be maintained at all times in church structures. Doors must open outwards and first aid fire extinguishing agents must be provided.

We find safeguards to life in these establishments equal to those in public schools, except that we do not hold fire drills at these places, but the children are drilled in the public school and have the knowledge of how to evacuate a building in an orderly fashion.

Decorations are held to a minimum in these structures and only safety film permitted.

We make regular inspections of these buildings.

L. Strange, Chief of Police, St. John's Newfoundland: We maintain strict supervision over ingress and egress of churches, schools, Sunday schools, and any and all places where large bodies of people congregate. In addition, we check fire escapes, panic bolts and escape chutes.

We find that denominational schools, such as we have in St. John's, are well protected as regard to safeguards to life, and I believe they compare favourably with the safeguards in public schools.

We do not permit flammable decorations, electric appliances, etc., which may constitute a life hazard in these structures.

Fire department inspectors cover these establishments in their regular tours.

We found church organizations willing to cooperate with the fire department in correcting hazardous conditions.

H. E. Grunwald, Chief, Fond du Lac, Wis.: Whenever we are notified of large groups of children or adults congregating in church establishments, we have one or more men stationed at that place to see that they keep order.

We find safeguards to life in these structures equal to those in public schools.

We do not permit flammable decoperations, electric appliances or other equipment which may constitute a life hazard. We also make regular tours of inspection.

We find that these organizations are willing to cooperate with us in correcting hazardous conditions.

Harold Crawford, Chief, Jackson, Mich.: Firemen are detailed to large meetings in churches in our city.

We do not find safeguards to life in such establishments equal to those in public schools.

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PLATE 116

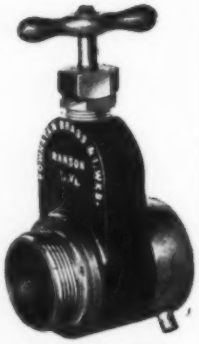

PLATE 116A

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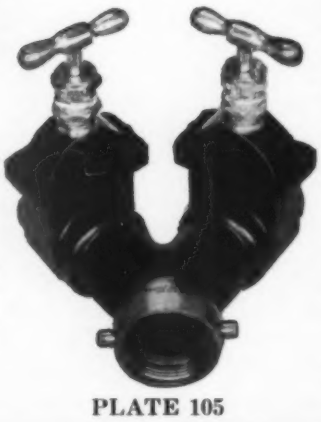

PLATE 105

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1. Do you have any portable 50-foot extension ladders in your department?
2. Are they of wood or metal?
3. Do you have enough men responding on ladder truck to raise these ladders in a quick and efficient manner?
4. If not, what is your procedure?

We definitely do not permit the use of flammable decorations, electric appliances, etc., which may constitute a life hazard.

Our fire department inspectors cover church establishments in their regular tours of inspection.

These organizations are willing to cooperate with the fire department but are usually quite lax and careless in correcting hazardous conditions.

The Rev.—(Name Withheld upon Request): In general the fire department here is getting "A" for effort. Clergymen are generally cooperative. However, it has been my observation that the State Law should be mandatory and uniform and should have "teeth" in it. There is a lot of "buck-passing" from the department of public safety to the building department, (state and local) to fire department, and as a result nothing is ultimately done to remedy repetitions of disaster. Let the law in the state include all churches and schools regardless of exclusive use for religious purposes. These requirements should be kept to the letter of the law.

Secondary lighting should be made mandatory and people should be prohibited from standing in exits especially during Christmas Midnight Masses and inclusive of all regular large gatherings.

The state law should provide for a firemen on paid detail with authority to enforce the law.

To the point, have uniform state law, mandatory enforcement (i.e eliminating question of "Do clergy cooperate?"); avoid buck passing from public safety department to building department to fire department to particular fire company or officer; make people far more fire conscious especially as to the budget for fire department, avoiding "too little, too late—blame fire department." People generally do not think of the fire department unless they have a fire.

If the laws are made uniform and are enforced, clegymen will cooperate.

E. H. Aiman, Chief, Glendale, Cal.: We enforce the provisions of the fire prevention code relative to exit facilities, first aid fire appliances, housekeeping, etc. There is a state law pertaining to flameproofing combustible decorative materials.

We find safeguards to life in these establishments equal to those in public schools if they are in conformance with building and fire department requirements.

Our fire inspectors cover these organizations in their regular tours.

In general these groups are willing to cooperate in correcting hazardous conditions.

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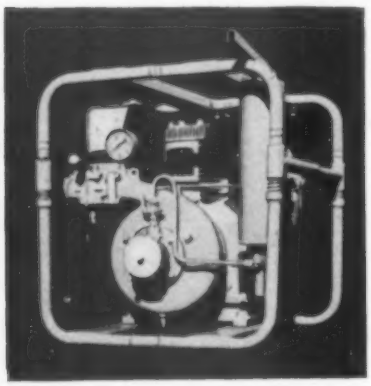
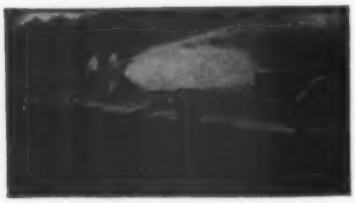
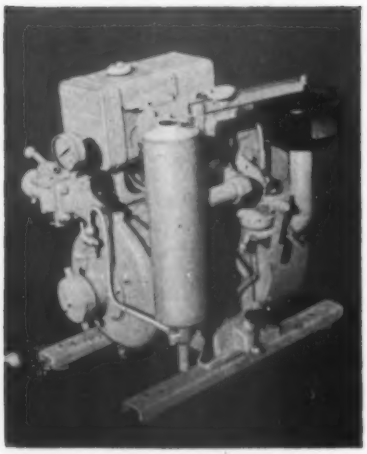


Above—FZZ Mounted on Carrying Frame



Pumping Solid Stream and Fog



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Write today for NEW FOLDER on the Hale Type FZZ Unit.
Ask for demonstration.

HALE FIRE PUMP CO., Conshohocken, Pa.

World Wide Fire News

By Roi B. Woolley

Ship Collision Causes Fire

Two ships, a tanker and a freighter, collided during a dense fog in Delaware Bay, setting off a fire that raged unchecked for five hours.

The vessels involved were the 13,000-ton oil tanker Pennsylvania Sun and the 7,607-ton freighter American Attorney. One crewman aboard the tanker was swept overboard in the crash, but was rescued unharmed by a passing ship. No casualties were reported although both ships suffered loss.

The 42 seamen in the Pennsylvania Sun, which was riding light at the time of collision, attacked the blaze, which started in the dry cargo hold, with foam. When they ran out of this, an SOS to the Coast Guard brought a plane loaded with additional foam, and cutters also were dispatched to the scene. Owing to the fog, the plane could not land but with the aid of the Coast Guard the tanker crew eventually controlled the fire. The fire, in the forepeak, was finally extinguished about seventeen hours after the crash.

At a hearing, the blame for the accident was placed on an officer of the freighter who failed to heed a radar warning signal.

* * *

Kin of Jap Balloon Bomb Victims Get $20,000

The families of five children and a minister's wife who were killed by a Japanese balloon-bomb in Oregon during the second World War were voted $20,000 by the Senate Judiciary Committee in May.

The children were members of a group at a Sunday school picnic, under the care of a minister and his wife. The date was May 5, 1945. Suddenly there was an explosion. When the smoke had cleared five of the children and the minister's wife were dead—victims of one of the many strange bombs that the Japanese had loosed to drift over the United States attached to wind-blown balloons.

The Army opposed any bill to pay kin of victims of such enemy bombs, but the Committee ignored the argument claiming "that in this unique case, where loss of life occurred to innocent citizens who were completely unaware of any danger from enemy activity; the persons who suffered because of these bombs should be compensated in a reasonable amount."

The Committee further held that no Army man was responsible for the deaths, but insisted the Army, and the other services, were "aware of the danger from these Japanese bombs and took no steps, for what may have been valid reasons, toward warning the civilian population of the danger involved."

* * *

Hot Off the News Ticker

Fire in June destroyed 343-year-old Fukuyama Castle, a Japanese national treasure, located at Fukuyama, oldest city on the island of Hokkaido. . . . Two firemen were killed and five others injured on June 5, 1949, in a $10,000,000 fire that destroyed a modern textile mill in the Characarita Section of Buenos Aires. The plant employed 7,000 men and women. . . . A series of forest fires in June, which merged into a roaring mass and for a time threatened the huge Lakehurst Naval Air Station, at Lakehurst, N. J., were brought under control by 100 trained fire fighters under supervision of Chief William Seidel, New Jersey Forest Fire Service, aided by service units, after destroying about 1,000 acres of woodland. . . .Near Monterey, Calif., a forest fire swept a wide area in June, killing two men and destroying 30,000 feet of mill lumber and three bunkhouses. . . Two ex-convicts confessed to planting a time-bomb on board a Philippine Airlines plane which crashed May 7, killing thirteen persons. The men were allegedly hired by a woman and her lover to kill her husband, a passenger on the plane. . . . A mysterious blast destroyed fifteen cars of a Russian ammunition train at Wolmirstedt, Germany, causing heavy property loss but no casualties, it is reported. Train had been sidetracked to let a passenger train pass, when there was an unexplained detonation that damaged nearby houses and ripped up 500 yards of main-line track. . . . The State of New Jersey is going ahead with its postwar disaster plans, war threat or no. Col. Halsey E. Yates, USA, ret., disaster coordinator of Los Angeles, conferred with Chief of Staff James McElroy of the Police Department and Leonard Dreyfus, director of civilian defense for New Jersey, on mutual plans for disaster organization and coordination of civilian defense programs. . . . The entire afternoon session of the Annual Convention of the New York State Association of Fire Chiefs in Syracuse, was devoted to a symposium on Mutual Aid. Chief Roi Woolley, assistant Editor, FIRE ENGINEERING, directed the discussion which was participated in by several score paid and volunteer fire chiefs, and others. . . . The mighty B-36, over which there is so much agitation, has a gross weight of 300,000 lbs., is as long as the height of a 14-story building and has a fuel capacity equal to 2½ railroad tank cars. Gangway! . . . Both tubes of the secured and shattered Holland Tunnel were opened to around-the-clock traffic week ends beginning June 18. Since May 13, when fire and explosions ravaged the east-bound tube, it had been closed from 8:00 P.M. to 6:00 A.M. every night but Sunday so that repairs could be made. Meantime, a corps of legal talent and insurance investigators has been "probing" into cause and effect. . . . A dynamite blast that shattered a large frame home and sent debris 500 feet into the air at St. Ferdinand, Que., on June 6, injured 18 volunteer fire fighters.

* * *

Paris Firemen Sadly Duped

The Paris (Fr.) Fire Department had a collective red face one day in May, and it wasn't due to any fire either.

A scholarly looking gent with documents attesting his prominence as an Egyptologist persuaded the authorities to let him examine the instructions cut in the famous Obelisk of Luxor, in the center of the Place de la Concord.

On orders of city officials, always glad to aid the cause of science, the fire brigade backed up a ladder truck, unfolded their extension ladder as the usual Parisian crowd collected at the base of the Obelisk, halting all traffic.

The scholar (?) mounted the ladder

to the tip of the spire of the Obelisk and forthwith began a speech, with gestures n'everything. His brand of cigarette-lighters, he said, produced a flame as tall as the Obelisk. Yeah, it was all a hoax to publicize a lighter.

Red faced gendarmes hustled the "scientist" off to the Bastille, while equally red faced *"pompiers"* folded their extension ladder like the "tents of the Arabs," and as "silently stole away" back to quarters.

Obituaries

Ex-Chief Chas. J. Brennan Dead

Charles J. Brennan, former chief of San Francisco's Fire Department, died May 29 in Hollywood, following a heart attack. He was 73.

Chief Brennan had been living in Southern California since his retirement in 1943 after 40 years service with the department here. He came up through the ranks and was appointed Chief Engineer in 1929.

When ill health forced his retirement,

Ex-Chief Charles J. Brennan

the Fire Commission conferred upon him the title of "Fire Chief Emeritus."

Chief Brennan had been suffering from a heart ailment for a number of years. His condition was aggravated by physical and mental strain necessitated by defense work during the last war, and he collapsed while directing the fighting of a three-alarm fire in 1942.

The chief was born in a two-flat building on San Francisco's Howard street near First, the son of a gilder who had come here in the early 1850's. His father at one time shared the world's championship doublescull oarsman title.

The first job young Brennan had was at the age of 10, cleaning bricks for a contractor who was building one of the wings for the old City Hall. Later he drove a butcher cart and worked as a locomotive fireman for the Santa Fe.

When the Spanish-American war broke out, Brennan volunteered and served in the Philippines for three years. Back in San Francisco he became a substitute fireman in 1902 and the next year a member of the regular department.

He served in every rank—hoseman, truckman, driver, tillerman, engineer, operator, lieutenant, captain, battalion chief, assistant chief and finally chief.

Thousands of these Service Signs

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These are important to every manufacturer of powered equipment—every distributor, dealer, and user of Briggs & Stratton 4-cycle air-cooled gasoline engines. They are assurance of continued maximum performance and efficiency of all equipment powered by Briggs & Stratton.

These signs identify authorized and qualified Briggs & Stratton service organizations—each a part of an unequalled network of such outlets, available in all parts of the United States and Canada.

Each service organization has Briggs & Stratton factory-trained men, factory-approved tools and uses, factory-approved methods and only original factory parts.

This network of supervised service organizations is the largest of its kind in the world. Supervising, training, and constantly expanding this network and service is an important part of Briggs & Stratton's continuous effort to make its engines of greatest, constant value to their users.

Briggs & Stratton Corp., Milwaukee 1, Wis., U.S.A.

"Preferred" Air-Cooled Power

On the morning of the 1906 earthquake, Brennan was stationed with Truck Company No. 7 on Seventeenth street, between Folsom and Harrison. He had been fighting a three-alarm fire until 3 a. m. When the ground began to shake he slid down the pole barelegged and began rescue work at once.

He was as often the victim as the rescuer in the years that followed. He was poisoned by carbon monoxide and nitric acid fumes, blinded for four months and suffered broken arms and ribs.

Chief Brennan was elected President of the International Association of Fire Chiefs in 1935, at the annual conference held at Knoxville, Tenn. He acted as host to the 1939 conference which met in San Francisco.

Following his retirement, Chief Brennan lived with his brother, Jack, a Hollywood song composer who wrote such pieces as "Ireland Must Be Heaven for My Mother Came From There" and "Let the Rest of the World Go By." The brother died a year ago.

Chief Brennan's only survivor is his widow, Lillian, who lives at 95 Twenty-sixth avenue, San Francisco.

Chief A. J. Baker Dead

Arthur J. Baker, former Chief of the Lewistown, Mont., Fire Department, and an outstanding figure in the fire service of the nation, passed away on June 9, after a lingering illness.

He had been fire chief in Lewistown since 1918, resigning this year on May 1 because of ill health.

Chief Baker was born in Bay City, Mich., on August 16, 1885, the son of the late Mr. and Mrs. Richard D. Baker. The family lived in Buckingham, Quebec, before moving to Butte, in 1890, where he attended school.

In 1902 they came to Gilt Edge and later moved to Lewistown where "R. D. Baker & Sons" built and operated a store and blacksmith shop across from the Fergus hotel.

In 1904, Chief Baker joined the Lewistown fire department as a volunteer and in 1908 became a paid member. He served as assistant chief under the late John C. Bebb and in 1918 upon the latter's retirement, was elected chief, climaxing his rise through the ranks.

His career was a long one of service in his field. He was active in the Montana State Firemen's association, serving as president for ten successive years from 1914 to 1924.

In 1936 he was appointed director of the Pacific Coast association of Fire Chiefs and the next year elected second vice president. He was named president of the group in 1939-40.

During these years, he became active in the International association of Fire Chiefs, serving as chairman of important committees and later as one of the board of directors, meeting in New York City each year.

At Boston, Mass., in 1941 he was elected first vice president of the I.A.F.C. moving up to the presidency in August, 1943.

As proof of the wide respect with which he was held. Baker was the only one from Montana to attend the president's conference on fire prevention in Washington, D. C. He was extended a personal invitation by the president.

Of Baker, who served as fire chief the longest in Montana, Charles W. Cook, manager of the Montana Rating Bureau of the board of fire underwriters, has this to say of him.

"It has been through his leadership and single handed efforts that the name of Lewistown has been so well known among the various firemen's organizations throughout the country."

Chief Baker was married on Nov. 10, 1913 to Irene Johnson, teacher in the public schools.

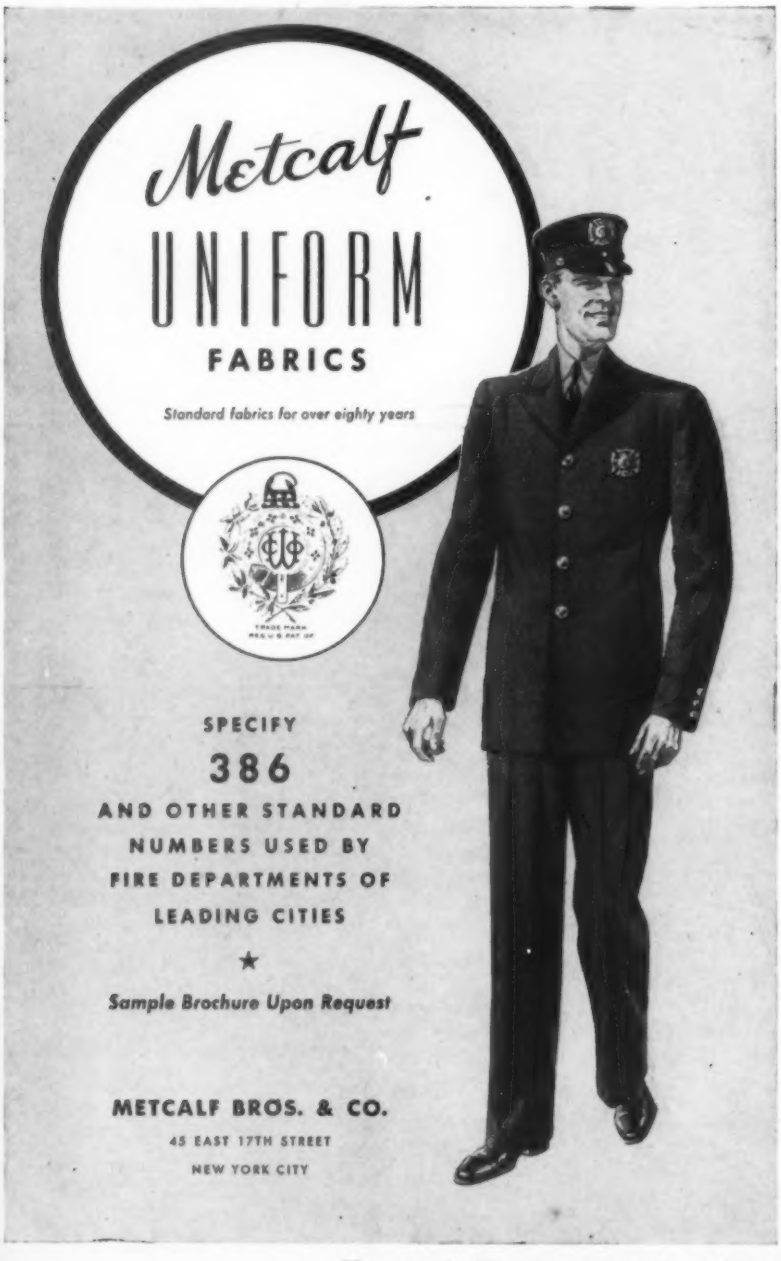
Surviving are his widow, one son, Arthur Jr., assistant manager of the Mutual Life Insurance company of New York, located in Cheyenne, Wyo.; two brothers, Richard S. Baker of Lewistown, and Thomas W. Baker of Portland, a sister, Mrs. Mable Saltmarsh of Denver, Colorado, five grandchildren and several nieces and nephews.

Mrs. John Kenlon Dead

Kathryn Fitzgerald Kenlon, widow of the late Fire Chief John Kenlon of New York City, died June 10 in her home on Englewood Cliffs, N. J. Requiem Mass was sung on June 14 in St. Cecelia's Church with internment in Madonna Cemetery. She is survived by one son Edwin T. Kenlon of Teaneck. Chief Kenlon died nine years ago on Memorial Day.

Lawrence Davis Dead

Lawrence Davis of Chicago, Illinois, field engineer of the Seagrave Corporation, Columbus, Ohio, was found dead in the Chicago Union Station, Friday evening, June 3rd. He apparently had



passed away from a heart attack.

Mr. Davis was 66 years of age at his death and had been in the service of the Seagrave Corporation for the last forty years. He is survived by four daughters. Funeral was held Tuesday, June 7, and burial made at Columbus, Ohio.

Persons in the News

E. M. Cain New Cleveland Chief

Elmer M. Cain, youngest ranking officer of the Cleveland, Ohio, Fire Department was sworn in as chief to fill post left vacant by former Chief James E. Granger. The new head of the department is 45 and has spent 25 years in the department. He had been second Assistant Chief.

Chief Cain and first assistant Chief James Nimmo, 73 took civil service examinations for the position, the new chief scoring 89.96 to win. Chief Nimmo's mark was not given but he conceded the appointment. It is reported that Battalion Chief Ferdinand E. Boehmer, a member of the department for 30 years, headed the list of contestants who took the examination of first and second assistant chiefs. His mark was 96.4.

The new Chief is a native Clevelander. He was promoted to lieutenant in 1932 and three years later named captain. He is married and has a four-months-old son. He was sworn in by Safety Director William F. Smith June 1, 1949, before 300 onlookers at City Council Chambers. As a good-luck piece, he was presented with a badge worn from 1899 to 1911 by Edward F. Croker, New York City fire chief.

C. B. Black Heads Sun Oil Fire Protection

Appointment of George B. Black to succeed Robert G. Guthrie as fire protection engineer of the Marketing Divison, Sun Oil Company, was announced recently.

Mr. Guthrie has retired after 19 years as fire protection engineer. Mr. Guthrie served for a number of years as a member of the Fire Protection Committee of the American Petroleum Institute and as chairman of the Fire Protection Committee of the Associated Petroleum Industries Committee of Pennsylvania, Maryland and Delaware.

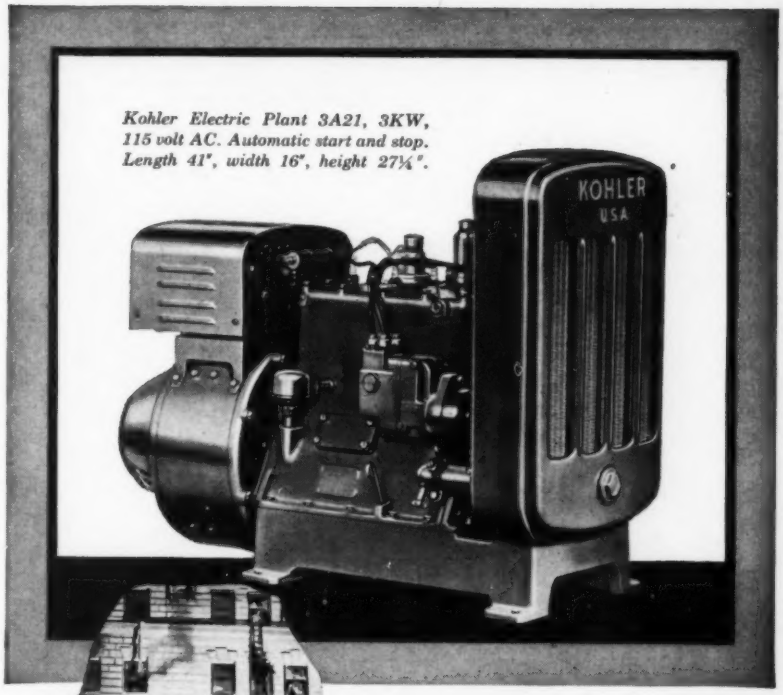
Clement Murphy Retired—Mayhew New Washington Chief

Clement Murphy, Chief Engineer of the District of Columbia Fire Department for the last three years and four months, was retired by the District Fire Commissioners on July 1, 1949. His last day of active service was June 20.

It was announced by Commissioner John Russell Young that the new Chief Engineer will be former Deputy Chief Joseph (Holy Joe) Mayhew, 62. His appointment, it is said, is based on seniority.

Chief Mayhew has served 41 years on the District department, 11 years of it as captain of Rescue 1. He is considered an expert on building construction.

Joseph Augustine Mayhew was born



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AMERICAN-MARSH
PUMPS, INCORPORATED
BATTLE CREEK, MICHIGAN

In Canada: C. E. HICKEY & SONS, Ltd., Hamilton, Ont.

March 11, 1887, in Prince Georges County, Md. He was appointed to the fire department July 1, 1908. His promotions were consistently progressive: Sergeant, Dec. 17, 1924; Lieutenant, May 1, 1928; Captain, May 9, 1930; Act. Battalion Chief, June 11, 1930; Battalion Chief, July 1, 1941; Act. Deputy Chief, Feb. 5, 1944; Deputy Chief, July 1, 1946; Acting Chief Engineer, June 23, 1949; Chief Engineer, July 1, 1949.

In 1912 Chief Mayhew was awarded a ribbon for his work at the Knickerbocker Theatre disaster.

Chief Mayhew has not announced his plans and policies for administering the department, nor have the Commissioners stated who will be advanced to fill the post left vacant by his promotion.

The new Chief Engineer will receive a salary of $10,000 per year. Retirement is mandatory at the age of 64 years.

Chief Arthur Spring Retires

Arthur W. Spring, Chief of the Laconia, N. H., Fire Department since 1904, retired June 1, 1949. Deputy Chief Henry H. Shorey has been named acting chief.

Chief Spring, who has been a member of the department since 1989, filled the post of president of the New Hampshire and the New England Fire Chiefs Associations during his long service. During his tenure he saw the Laconia Fire Department develop from a poorly equipped volunteer organization to one of the most progressive, modern departments in the state. Asked about his future plans, Chief Spring said laconically he contemplated doing a little fishing.

Chief Maentz Retiring

Chief H. D. Maentz of the Allegan, Mich., Fire Department has announced his retirement. He became a member of the department in September, 1896, and was on active duty until January, 1949. He was elected Chief and, at the same time, president of the Michigan State Firemen's Association in 1924, which post he held for three years. He was directly instrumental in building the Allegany Fire Department to its present high state of efficiency.

According to Orson Roburn, Secretary of the Allegan Fire Department, a general meeting is planned to honor Chief Maentz at which time the mayor and city commission are expected to present the retiring official with a suitable testimonial in recognition of his long faithful service.

Francis S. Brigham II

Announcement has been made of the arrival on June 10, at 7 A.M., of Francis S. Brigham II—weight seven pounds, four ounces. He is the son of F. S. Brigham, who is Sales Manager of the Oren Roanoke Corporation, Roanoke, Va., builders of motor fire apparatus, and Dorothy Lemon Brigham.

Fire Buff to Wed Commissioner's Cousin

Benjamin M. Ellis, 225 Beacon Street and Miss Rachael Codman of 101 Chestnut Street, Boston have announced their engagement. They plan to be married early this fall. Ben Ellis is widely known

for his interest in the fire service. Miss Codman is a first cousin of Commissioner Russell S. Codman, Jr., of the Boston Fire Department.

JOHN H. HILL

Chief Charles Lane Feted

Charles E. Lane, for 50 years chief of the Orange, Mass., Fire Department, was honored June 11 at a public reception tendered under the sponsorship of the fire department. Local and out-of-town celebrities, firemen and townspeople, paid tribute to his half century of service. The reception was held at Memorial Park from 2:00 to 3:00 P. M. during which time the chief was presented with a monetary gift. A buffet luncheon followed the ceremonies.

Oldest Living Fireman

Competing for honors as the oldest living fireman in the nation and reported to be the oldest in the State of Indiana, is Henry Schneider of Madison, Ind. He is 99 years old, and aside from some impairment of his sight and hearing he is in good health. Incidentally, this information comes from his nephew V. J. Schneider of Dothan, Alabama, who is no spring chicken of a fire fighter himself—being 64 years old, and having fought fires since he was twelve.

What's Burning

THE following list includes fires of $10,000 loss and over in the United States and Canada for the month of June, 1949.

Month Ending June 30, 1949

Blountstown, Tenn.—Neal Lumber & Mfg. Co. veneer mill destroyed.
Roanoke, Va.—Magic City Launders & Cleaners, Inc., plt. destroyed.
Sudbury, Ont.—Store of H. Portelance, Markstay, destroyed.
Clinton, Iowa—Fuel oil tank at Phillips Petroleum bulk station and storage bldg. leased to Carstensen Transfer Co. destroyed.
Troy, N. Y.—Keller Baking Co. gutted by fire.
Tazewell, Tenn.—Schultz Hotel, dwelling and motor co. destroyed. Another dwelling damaged.
Pawtucket, R. I.—Raymond Barrel & Drum Co., storage and business bldg. damaged; barrel stock destroyed.
Legal, Alta.—Roman Catholic Church destroyed
Montebello, Cal.—School whse. damaged.
New Sharon, Me.—High school destroyed.
Southampton, Ont.—Southampton Furniture Co. destroyed.
Drummondville, Que.—Goudreau Dry Cleaning plt. destroyed. Explosion in pressure tank.
Vernal, Utah—Bldg. occupied by Pure Ice & Livestock Co., and two apts., damaged.
Chicago, Ill.—Five business bldgs. occupied by I. L. Odman Paper Products, Container Laboratories, Lapine Glassware Co., Republic Decorating Co., Brown Fabrics Co., Pitt Engineering Co., American China Glassware Co., and Reliable Display Service.
Oak Grove, La.—Oak Grove's electric, ice and water plts. destroyed.
Bradley Beach, N. J.—La Reine Hotel damaged.
Woodbridge, N. J.—Block-long storage plt. of Progress Film Co. Explosion believed to have been caused by spontaneous ignition caused by extremely hot weather.
Ione, Ore.—City Hall destroyed; contents of Ione Seed Mill destroyed.
Carlisle, Pa.—Grand View Hotel damaged. Defective wiring.
Coalinga, Cal.—Walker's Cafe destroyed. Pippin's Auto Supply store damaged.
Jamaica, N. Y.—Fazio Storage & Transfer Co. destroyed. Adj. bldgs. occupied by Jerusalem Church of Christ and two apts. damaged.
Petersburg, Va.—Apt. bldg. damaged.
Vancouver, B. C.—Business section, East Central Vancouver destroyed. Buildings were occupied by two fuel companies, refractory plt., asbestos plt., two paper stock companies, two lumber yards, cafe, salvage firm, stone cutting

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"RED CHAIN"
FORESTRY HOSE

THE lightest, most durable, pure linen fire hose available. Exceeds U. S. Forest Service Specification No. 183 (May 1949). When you need linen fire hose, remember, Niedner's more than 50 years of specialized experience means highest quality.

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This extra protection in Niednerized "RED CHAIN" guarantees longer life free from rot and mildew, as every thread is thoroughly impregnated to withstand fungus attack under the most severe service conditions. Niednerized Hose is natural in color, odorless, non-toxic and unchanged in appearance, feel, flexibility and strength. Always specify Niednerized "RED CHAIN."

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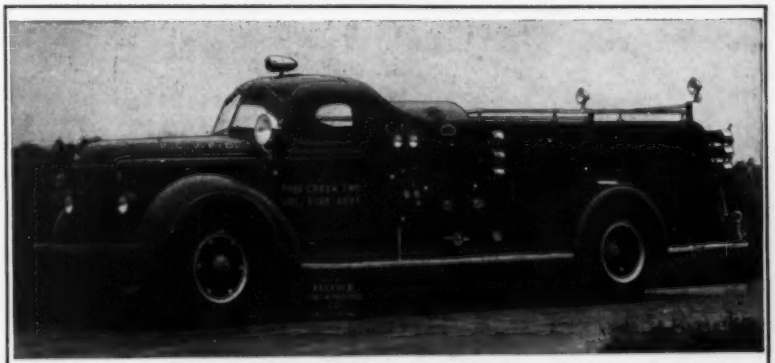

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FIRE DEPT. MODEL

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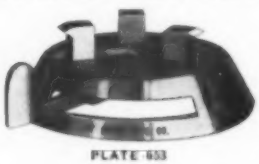

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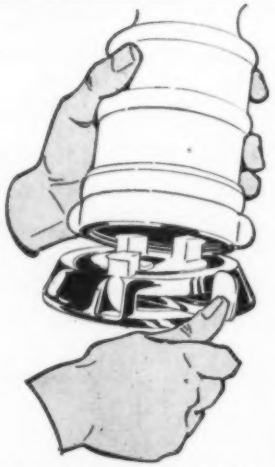

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plt., welding shop, pier, several small boats and private dwelling.

Modesto, Cal.—Culver Furniture Co. destroyed. Incinerator.

Idaho Falls, Ida.—Plt. of Old Faithful Beverage Co. destroyed.

Bay City, Mich.—Plt. of Woodcraft Corp., radio cabinet mfrs. destroyed.

Upland, Pa.—Four barns on farm of William J. Wolf destroyed.

New London, Wis.—Plt. of New London Mfg. Co., furniture and toy makers, destroyed. Sawdust piled against outer wall.

Marquette, Mich.—Sawmill, dry kiln, new equip. awaiting installation and 400,000 feet of logs and cut lumber at Schneider Bros. Lumber Co. Sparks from boiler in power plt.

Lytton, B. C.—Four stores and cafe destroyed.

Asbury Park, N. J.—Hotel Breslin damaged.

Bridgeton, N. J.—Theatre bldg. damaged.

Klamath Falls, Ore.—Rex Baking Co. destroyed.

Pendleton, Ore.—Pendleton Lumber Co. destroyed.

Olympia, Wash.—Hadley Lumber Mill destroyed.

Wildwood, N. J.—"Play the Races" amusement parlor on boardwalk destroyed.

Erie, Pa.—Furniture whse. of Stanley Bros. Furniture Co. damaged.

Fort Benton, Mont.—Overland Hotel, four adj. bldgs., destroyed.

Appalachin, N. Y.—Franklin Palmer Lumber Co. destroyed.

Ruckersville, Va.—Service station and two-story garage destroyed.

Presque Isle, Me.—Race track grandstand and fairgrounds bldg. destroyed. Boys playing with matches.

Port Dalhousie, Ont.—S.S. Northumberland, owned by Canadian Natl. Steamship Lines, damaged.

Salisbury, Md.—Bldg. occupied by Burns General Motors Co., General Baking Co., Paving Supply Co. and Dude Ranch Nightclub destroyed.

Philadelphia—Whse. and storage yd. of Abbott's Dairies, Inc., and garage of N. F. O'Connor, Inc., destroyed.

Monterey, Cal.—Charles Vander Ploeg Lumber Mill destroyed.

Birmingham, Ala.—Peerless Broom Works Co. plt. destroyed.

Palm Harbor, Fla.—Palm Harbor Junior High School bldg. destroyed. Lightning.

Alfred, Me.—Sawmill of Shepard & Morse Co. destroyed.

Boston, Mass.—Chandler School damaged.

Provincetown, Mass.—Mercantile bldg. damaged.

Quincy, Mass.—Wollaston Yacht Club damaged.

Detroit, Mich.—Edgar Sugar Whse. destroyed.

Vass, N. C.—Futrell Bros. Lumber Co. plt. damaged. Shavings became ignited.

Clendenin, W. Va.—F. C. Cook & Co. sawmill, Glen, Porter's Creek, 12 miles away, damaged. Blazing sawdust pile.

St. Michel de Napierville, Que.—Hotel, restaurant, dwelling, parish hall and four other bldgs. destroyed.

Danville, Ill.—Four business bldgs., facing square in heart of business district destroyed. Another business bldg. damaged.

Neptune, N. J.—Waste disposal plt. and Sears-Roebuck storage whse. destroyed. Acme Woodworking Co. and war surplus stock whse. damaged.

Dixie, Ont.—Barn of Oliver Pallett destroyed.

Richmond, Cal.—Factory of King Oil Co. destroyed.

Arkadelphia, Ark.—Store of Graves Hardware Co. destroyed. Helms variety store, George Wells' newsstand and Birdie's beauty shop damaged.

Freehold, N. J.—Gloucester Carpet Co., Route 23, destroyed.

Buffalo, N. Y.—Four-alarm fire swept New York Central Railroad Whse. At least a dozen boxcars burned, believed to be filled with refrigerators.

Staten Island, N. Y.—Baltimore & Ohio railroad coal loading dock, near St. George ferry slip, destroyed.

Canton, Ohio—Plant of Canton Metal Alloys Co., Waco, southeast, destroyed.

Multnomah, Ore.—Multnomah Theatre destroyed.

Kingstree, S. C.—Bldg. occupied by supermarket of Stanley Inman.; bldg. occupied by Atlantic & Pacific Tea Co. store, and bldg. occupied by Beauty & Barber Palace, damaged.

Athens, Tenn.—Furniture upholstery plt. of Carver Mfg. Co. damaged.

Memphis, Tenn.—Levi Grammer School, Highway 61, three miles south, destroyed.

Jacksonville, Ark.—Transformer substation of Arkansas Power & Light Co. damaged.

South Windsor, Conn.—Barn, storage whse. and tobacco shed of Julius Milkie destroyed.

Detroit, Mich.—Sprecksell Body Co., East Detroit, destroyed.

New Bern, N. C.—Harkers Island Hotel, Harkers Island, Carteret County, destroyed.

Cleveland, Ohio.—Clubhouse of Beechmont Country Club destroyed.

Three St. Paul Chiefs Die in Warehouse Fire

(*Continued from page* 507)

causing estimated loss of $10,000 (a special alarm blaze). All these fires were at 2236 Myrtle Avenue. On Oct. 12, 1945 another special alarm fire caused $5,000 damage to baled straw and a warehouse at Raymond and the Milwaukee short line tracks.

A spark from an electric motor caused a fire in a paper conveyor at Myrtle Avenue, Nov. 22, 1946—nominal damage. A long warehouse at 2250 Wabash Avenue, 100 ft. long by 40 ft. high, covered with corrugated sheathing, burned April 28, 1947. Next came the five-alarm fire that ravaged a 12,000 ton outdoor stockpile of baled paper at the Vandalia and Wabasha plant on Oct. 7, 1947—damage $100,000. Four Minneapolis companies helped to fight this fire.

Nearly half St. Paul's fire force fought a similar blaze—the city's worst fire of the year, which started in the plant's storage yard May 24, 1948, and smoldered for weeks. The total loss was $175,000.

Following the funeral of the three chiefs, which were attended by all available St. Paul firemen, and 200 brother fire fighters from Minneapolis, William Mattocks, 53, veteran fireman was named Chief.

Harrison, N. J., "War Baby" Buffs Club Carries On

(*Continued from page* 506)

auxiliaries, crammed with training, and more training interspersed with occasional social activities. As the years passed the nucleus of the group clung together. The succeeding presidents during the period were John Murphy, Harry Wiebold and John Hommes.

Cessation of World War II, and the ultimate termination of civilian defense saw them carrying on, determined to carry forward their objective of "the solidifying of friendship among the members and assisting the regular fire force" of their city. These principles were written into the constitution of the "Three Alarm Club" on June 1, 1947, as the successor of the old Auxiliary Association was christened.

John Murphy, former head of the old organization, was made president; John Fuhrmann was appointed to draft the new constitution—which he did, with suggestions from the Fire Bell Club of New York City and the Phoenix Society of San Francisco.

Today, Fire Chief Andrew Callahan, who expects to retire next fall, beams proudly upon his new aggregation of old friends and fellow fire fighters. "Who knows," he says," there may come another great emergency—and it's well to be perpared for it with time-tried and tested reserves!"

Coordinating Council Meets

(*Continued from page* 494)

ing. There was a complete report on the progress in the State Legislature of nearly 300 bills now before that body affecting fire fighters in this State.

In the evening all hands turned out to the park for a barbecue and chili bean supper, prepared by members of the Los Angeles County Fire Department and the San Gabriel Valley Firemen's Association.

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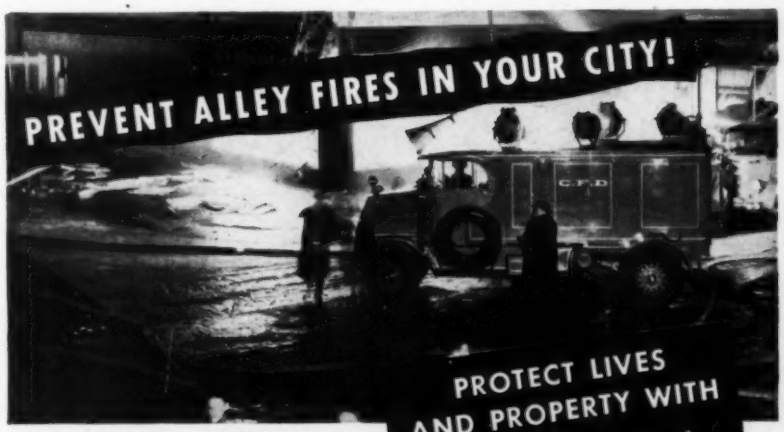

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Formula for Small Hose

To the Editor:

What is the formula for finding engine pressure on 1½-inch hose?

E. S. N.

Answer: The formula for finding engine pressure on 1½-inch hose is as follows:

$$E.\ P. = N.\ P. \times (1 + KL)$$

E. P. is engine pressure in pounds per square inch; N. P., nozzle pressure in pounds per square inch; K, a factor depending upon the hose and nozzle diameters; and L, the number of 50-foot lengths of hose in the line.

The values for K are as follows:

VALUES OF K FOR 1½-INCH HOSE AND VARIOUS NOZZLE DIAMETERS

Nozzle Diameter	K
⅛	.0084
3/16	.036
½	.104
5/8	.234
¾	.445

Pressures Involving Branched Lines

To the Editor:

In the first question of the multiple problem in the December, 1948, issue of FIRE ENGINEERING submitted by A. L. R., I read it as two lengths of 1½-inch line branching from the 500 feet of 2-inch line, but in your solution to the total engine pressure, I notice you only account for one length of the 1½-inch line in addition to the 2½-inch line and the nozzle pressure. In other words, in computing the engine pressure, you add the friction loss of 500 feet of 2½-inch (26.5) plus only one of the 1½-inch line's friction loss (27). I should think it would be 26.5 plus 27 plus 100, or 180.5.

P. S.

Answer: When a line of hose supplies two branched, lines, such as in the problem you cite, and both branched lines are identical, the nozzle pressure on each will be the same; also the friction loss in each branched line will be the same. We may consider the pressure at the wye as engine pressure, and solve two separate problems, each involving a length a hose of the same diameter and length and equipped with the same size nozzle. This one engine pressure will give the same pressures at the two nozzles. It will also give the same friction loss in each of the two lines. Thus to the pressure at one nozzle must be added the friction loss in either line to secure the pressure at the wye. We do not add the friction loss in the two lines because then we would have incorrect value of the pressure at the wye. Even if a third or fourth line were connected at the wye, the wye pressure would remain the same if nozzle pressures were at the same; or, inreversely, if the nozzle pressures were the same in such a multiple layout, the wye pressure would naturally be the same.

Suppose, for example, that in a layout involving one line branched into two, the pressure at the wye was 50 pounds. Assume, further, that the pressure at the nozzle on one of the lines was 30 pounds. As the branched lines are identical in diameter and length, as well as nozzle pressure, the pressure at the nozzle on the other line would also be 30 pounds. In each case, the friction loss will be 50—30, or 20 pounds.

It is evident, from this, that if you added the friction loss in the two lines to either nozzle pressure, you would not get 50 pounds at the wye, but instead, 70 pounds, which is contrary to the problem as given.

Pumper Specifications, Etc.

To the Editor:

The National Board and the Motor Fire Apparatus Manufacturers' Association have different pumper rating requirements. For example, the Underwriters require capacity of a pumper at 120 pounds pressure, while the M.F.A.A. require the same pumper to produce capacity at 150 pounds pressure. Why do these people differ in opinions on pumper requirements?

I've heard it said that when a large stream strikes a wall, the nozzle reaction increases tremendously. In your book on hydraulics you mention that no increase takes place when large streams strike walls.

I am told that sulphuric acid becomes a paste at 45 degrees F. Is this possible?

According to Underwriters' standards, what is the minimum allowable bursting pressure per square inch for new double jacket fire hose?

J. T. O.

Answer: The Uunderwriters and the Motor Fire Apparatus Manufacturers Association are together on their pumper rating requirements. The latest specifications of the National Board of Fire Underwriters and the International Association of Fire Chiefs give you the capacity ratings of pressures of both 150 and 120 pounds, which the apparatus builders use.

With regard to the reaction of a stream which strikes a wall, the reaction is not increased when such a stream comes in contact with the wall. Of course, the nozzle must be held sufficiently far from the wall so that the escape of water will not be interfered with. Reaction is a function entirely

of nozzle pressure and area of nozzle opening.

Sulphuric acid at a density of 63 degress Baumé has a freezing point of 45 degrees Fahrenheit, which is the highest freezing point it has at any density. At 33 degress Baumé it has a freezing point of 97 degrees below zero Fahrenheit, which is the lowest freezing point it has at any density. Thus at 45 degress Fahrenheit, sulphuric acid would thicken and freeze if it had a density of 63 Baumé.

The test pressure for new double jacket rubber-lined fire hose in 400 pounds per square inch. It must neither leak nor otherwise show defect when tested at this pressure.

Stark County Organized for Mutual Aid

The 30 active volunteer five companies of Stark County, Ohio, and communities in Carroll and Tuscarawas Counties, with over 1,000 active and associated volunteer firemen drawn from the ranks of factory, offices and farm workers, have been organized to better protect the numerous small rural communities of the area on a cooperative basis, according to FIRE ENGINEERING's correspondent Karl Lehr of Canton, O., who is both a fireman, and president of the Stark County Firemen's Association, as the group is known.

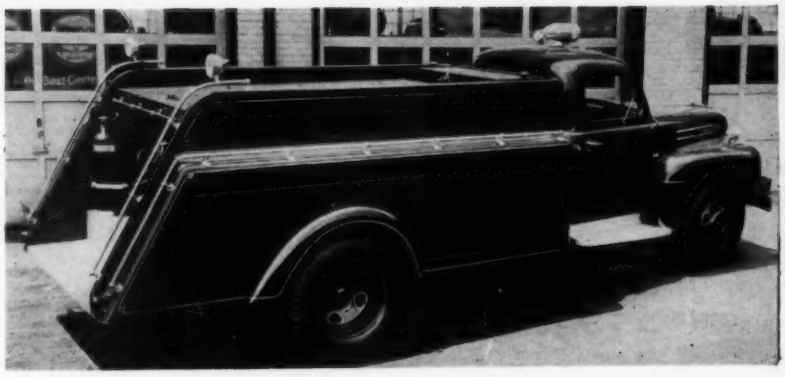
The volunteers, manning 57 fire trucks and three water-tank trucks, give fire fighting service 24 hours a day, with no compensation. The various departments have been organized and developed in different ways. In nearly every case they represent the outgrowth of long, hard work by 'minutemen' of the volunteer fire service. Some departments purchased their equipment with funds solicited publicly in their areas; others built their own equipment, including trucks and water carriers. In some areas township trustees rendered material financial help. The net result is a group of fire fighting units, operating outside the municipal department of Canton and Bilivar, Waco, Willowdale Lake departments and industrial fire brigades in the area.

The value of the equipment listed by the reporting units is $484,030, including $312,844 in apparatus and $171,186 in equipment. The apparatus carry a combined total of 73,350 feet of hose of all sizes; there are 12 pieces of breathing equipment; total of 197 firemen have won standard Red Cross training certificates, 70 have had advanced training and there are 7 qualified Red Cross instructors in their ranks.

Men are called by sirens on fire stations, and by telephone. President Lehr says that the average starting time of the rural units is approximately three minutes after receiving the alarm, which is good, considering the men are usually called from their homes or jobs.

The Minerva department, formed in 1868, is the county's oldest unit, while Uniontown, Robertsville, Richville, Navarre City and Meyers Lake departments have been in operation two years or less.

The Stark County organization was formed in 1944 as the outgrowth of a meeting of several departments in Navarre called at the insistence of Chief Clifford Johnson to discuss mutual aid problems.



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Here, at several thousand dollars less than you would expect to pay, is a modern fire fighter on a standard two-ton Ford chassis, carrying 800 gallons of water and 50 gallons of foam. This unit can be equipped with either a 200-500-600 or 750 GPM pump. A mechanically operated reel on each side carries 100 feet of one inch hose. (Electrically operated reels optional) 2½" suction and discharge on both sides. Space is provided for two lengths of 2½" hose with a mothproof compartment forward of that for clothes, tools, etc. A manhole at rear top of tank is big enough for access to tank for cleaning, painting, etc. Job comes equipped also with 2 15-lb. C-O-Two extinguishers and Model #66 Federal Siren. Other equipment optional.

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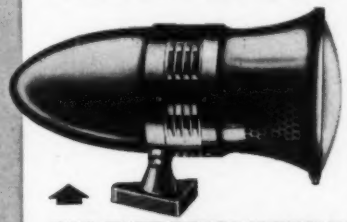

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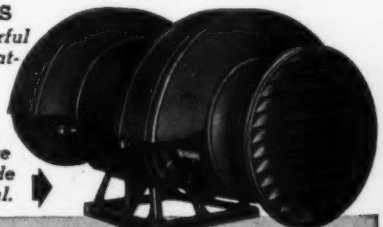

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They've been doing so for more than three-quarters of a century. That's because its scientifically controlled construction assures lightness and flexibility. More, it assures high burst-resistance and extra durability.

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Stolen Gasoline Flashes—Cincinnati Firemen Hurt

Charges of petty larceny and transporting gasoline in open containers were filed against two men after their automobile caught fire and an explosion occurred under the Eighth Street Viaduct, Cincinnati, in May.

Firemen were not told of the presence of gasoline in the car's trunk compartment as they fought the blaze prior to the unexpected blast.

The injured, all members of Engine 2, Cincinnati Fire Department, included its Captain Henry Campbell, 31; Fireman Walter Jones, Fire Recruit Roy Rooms, and Fireman Charles Fledderjohn.

Following the blast, it was disclosed that the men in the motor car had been stealing gasoline for some time and, according to Fire Marshal Daniel Kummer, they had two five-gallon cans, two open buckets and one ten-gallon open washtub, all containing gasoline, in the automobile's trunk compartment at the time the car took fire.

The fire is believed to have been caused by the short circuit of the auto's horn, which ignited the gasoline vapors.

When Engine 2 arrived at the scene, dispatched on a still alarm by the "tower," the motor car was enveloped in flames. Firemen stretched in hose lines and attacked the blaze with fog nozzles.

When it appeared that these nozzles were not having the desired effect on the blaze, Captain Campbell and Fireman Jones approached the fire closely to investigate. It was at that moment that the flash came, catching the men without warning and showering them with blazing gasoline.

Captain Campbell's clothes ignited, and he rolled in water in the gutter to extinguish the flames. He suffered 30 per cent burns from the hip up. Fireman Jones received second and third degree burns on the face and hands. [illegible] required no hospital care, nor did Recruit Rooms, who happened to be passing at the time of the fire and joined in fighting it.

The Life Saving Squad under Acting Lieut. Howard Zimmerman administered first aid to the injured and took them to General Hospital. The two gas thieves were caught nearby and arrested. They were treated for burns of the hands and face at the same hospital. They admitted stealing gasoline previously.

Rapid work by occupants of a Police radio car in summoning the Rescue Squad and the first ambulance and Police Patrol by radio is acclaimed. The call to fire alarm headquarters brought also District Marshal D. Kummer who took charge. The Company was out of service until personnel could be detailed to it from other companies.

—Pat S. Holz

Detroit "Jet Bombed"

A foretaste of what might happen in atomic age warfare was experienced by folks a block apart, in the neighborhood of Woodmont and Granmont Roads Detroit, Mich., on May 31, 1949, when destruction in the form of two auxiliary jet plane tanks came out of the sky.

The tanks, containing jet fuel (about as flammable a fuel as there is) fell from one of four jet propelled F-80 planes from Selfridge Field. One tank struck the roof of a wooden home on Woodmont Road, plunged through the house and buried itself in the basement, missing a family seated at the breakfast table by five feet. The other landed near a curb, just missing a home on Grandmont Road, spraying the dwelling and vicinity with the jet fuel as it smashed and shattering 36 windows in three houses.

Firemen, summoned by the startled

(*Continued on Page 532*)

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Just another type —one of many— made by pioneers in nozzle manufacture.

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1837 — 1949

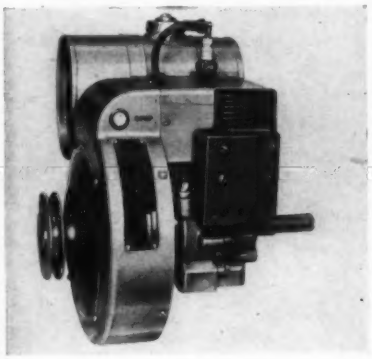
What Happens When a 1000-Pound Jet Plane Fuel Tank Hits a Dwelling.

News of the Manufacturers

New Engine by Homelite

A new air-cooled 4 HP gasoline engine weighing only 19 pounds complete has been announced by Homelite Corporation, Port Chester, New York.

The new No. 20 Homelite Engine uses die-cast aluminum alloys for all major castings. Two-cycle design permits a minimum number of moving parts,



New Homelite Lightweight Engine

simplifying maintenance and repair work. There are no exhaust valves, and only one rotary intake valve which is self-seating and requires no adjustment. The engine speed is controlled by a built-in governor which is part of the rotary intake valve.

Designed for any industrial application where light weight and compact size are important, this engine can be used either horizontally or vertically. It develops 4 HP at 4000 rpm. and 3 HP at 3000 rpm. Overall dimensions are 9½" long x 11½" wide x 13" high.

Gas Detector Approved by Underwriters

The Lor-Ann combustible gas detector and safety controller has just been approved by the Underwriters' Laboratories. The Lor-Ann has also received the approval of the Associated Factory Mutual Fire Insurance Co.

In operation, the Lor-Ann combustible gas detector continually samples and analyzes atmospheres where combustible gas accumulations produce an ever present but hidden fire or explosive hazard. When gas accumulation approaches a dangerous volume, an automatic alarm, both audible (bell and/or siren) and visible (neon signal light) is given and at the same time the Lor-Ann automatically takes over control of the plant's operating machinery, fire-fighting system, ventilation system or both depending upon the plant's particular protection requirements.

The "brain" of the Lor-Ann unit is contained in an air-tight and dust-proof control cabinet mounted on a self-supporting steel panel which also houses a heavy duty, rotary vane, forced feed lubricated, suction pump from which tubing leads to the gas analysis cells or "remote head" which are placed at the danger points. The remote heads are designed to be placed at any distance from the main control panel, the analysis taking place in the gaseous area

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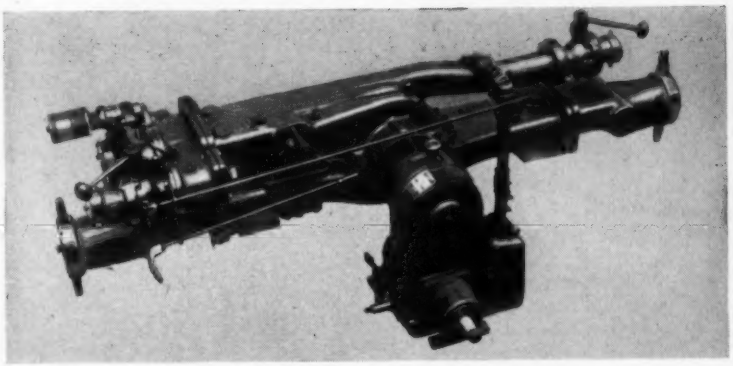

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and instantaneously "telegraphed" to the control panel.

The alarm point setting is variable and can be set from 20-100% of the lower explosive limit for any given gas. A wide-faced meter gives a constant reading of gas concentrations. The Lor-Ann operates on 110 volts 60 cycles and is provided with a 3-wire grounded neutral protective system.

The unit is manufactured by Lor-Ann Instrument Co., Inc., 58 Montgomery St., Jersey City, N. J.

C-O-Two Develops Dry Chemical Extinguisher

The C-O-Two Fire Equipment Company of Newark, New Jersey, has just completed development of their new dry chemical type fire extinguisher.

New C-O-Two Dry Chemical Extinguishers. Left to Right: 20 and 30-Pound Sizes

The dry chemical is free flowing, and there are no syphon tubes or valves within the cylinder. The discharge hose and nozzle remain empty until fire extinguisher is actuated.

Two sizes are provided: 20-pound capacity and 30-pound capacity.

These extinguishers bear the approval of the Underwriters' Laboratories, Inc. C-O-Two dry chemical is non-conducting, non-corrosive, non-freezing and non-toxic. It is highly effective on flammable liquid and electrical fires.

Dry chemical for recharging is sold in pre-measured 20 and 30-pound sizes as well as in a 50-pound bulk size, all sizes being packed in durable moisture proof containers.

Fire Hose for Chemical Industries

United States Rubber Company has developed a new high strength fire hose that is highly resistant to acids and acid fumes, oil and gasoline.

It is designed primarily for fire protection and general wash down service in acid plants and oil refineries but it is also practical for such heavy-duty service as street cleaning, sewer flushing and paving operations.

The hose is constructed with a natural rubber tube, two plies of chemically treated cotton cord fabric and a neoprene cover. This type of construction gives the hose strength to resist 400 pounds per square inch test pressure and at the same time permits greater flexibility and light weight, the company said.

The cotton fabric used for the plies is an adaptation of Ustex cord which is so widely used in the construction of heavy-duty conveyor belts.

The neoprene cover is 5/64 inches thick, heavy enough to resist abuse when dragged across concrete or asphalt pavement, yet light enough to avoid bulkiness. It gives the hose its high acid and oil resistance.

The hose is being marketed in two colors, white or black, under the trade name "Matchless Carbolized Fire Hose."

New Hose Bulletin

A new six-page catalog section on its lines of industrial fire hose has been published by The B. F. Goodrich Company, Akron, Ohio.

The catalog section details the methods and materials with which all fire hose of the company is constructed, and advantages of their use. It then pictures each of the brands of industrial fire hose, gives data on size, couplings and test pressures, and weight coupled and uncoupled for 50-foot lengths. Gaskets, fittings and couplings used with the hose are also described.

New Edition of "Fire Station Design"

C. T. McGraw, President of The Circul-Air Corporation, 575 E. Milwaukee, Detroit 2, Mich., has announced the release of Volume 2 of "Fire Station Design."

The new issue is a 36-page symposium of plans, ideas and sketches contributed by leading architects, fire officers and technical writers of the fire service.

It contains drawings of approximately 35 modern stations—one-floor and two-story in almost all types of architectural treatment and in a range of construction cost to show practical designs for almost any building appropriation.

New Houses shown are in Detroit, Columbus, Chicago, Monroe, New Orleans, Oklahoma City, Augusta, Ga., Grand Rapids, Beverly & Natick, Mass., Portland, Sacramento, Greensboro & Charlotte, N. C., Alexandria, Va., Old Forge, N. Y., Cedar Rapids, Ia.,Needham, Mass., Dubois, Pa., Lubbock, Texas, and several other interesting structures.

This brochure is available free of charge to architects, fire and municipal officials, building committees and others who may be interested in improving Fire Station Design.

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- Dries hose in a few hours.
- Saves space — fits in any corner.
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- Makes good hose last longer.
- Reduces new building costs.
- Improves station design.
- Dries fire clothing, too.

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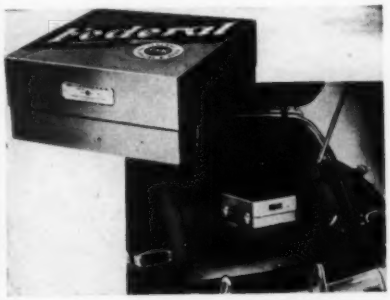
SIREN BOOTS
We have been supplying FIREMEN'S CLOTHING for over 25 years.
Any fireman can have a catalog by writing—
BODY-GUARD MANUFACTURING CO.
ST. JOSEPH - - MISSOURI

Federal Develops New Low Cost Radiotelephone Unit

Federal Telephone and Radio Corporation, Clifton, N. J., manufacturing associate of International Telephone and Telegraph Corporation, has introduced a new economical mobile radiotelephone



Compact Mobile Radiotelephone Unit Developed by Federal Telephone and Radio Corp.

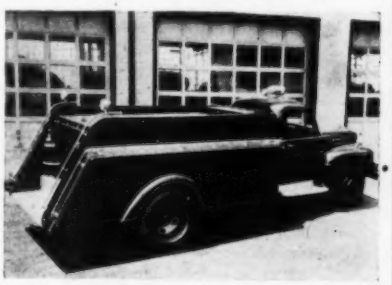
unit, the FT-145-10, priced at $350, having a power output of 10 watts at any frequency in the 152-162 mc band.

Due to its small size, low cost and performance and versatility it is said the unit should find wide application in fields where mobile communication are now used.

The new unit is engineered for operation over long periods of time, under adverse weather and terrain conditions. It is said to contain many features which simplify maintenance and servicing. Its overall size is 5⅞ in. high by 12⅞ in. wide by 14⅛ in. deep. It weighs 27½ lbs. Designed to meet RMA test recommendations, the mobile radio draws only 7.3 amperes standby and 23.9 amperes transmit, thereby allowing in many cases, the use of existing generators and batteries.

New Tank Truck Announced

The H. & H. Truck Tank Co., Inc., of 725 Tonnele Avenue, Jersey City, N. J., has announced a new fire fighter consisting of an 800-gallon water tank mounted on a standard two-ton Ford chassis and equipped with a pump of 200, 500, 600 or 750 g.p.m. capacity.

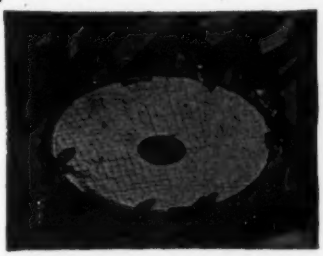


New H. & H. Tank Truck

Space is provided for two lengths of 2½-inch hose with a moth-proof compartment forward of that for clothes, tools, etc. A mechanically operated reel on each side of the unit carries 100 feet of 1-inch hose. Electrically operated reel can be provided if desired. Two and one-half-inch suction and discharge are provided on each side of unit.

The apparatus is furnished with carbon dioxide extinguishers, totalling 15 pounds, and an electric siren.

In the Fire Service—
THERE'S NOTHING "JUST AS GOOD"
The fire service prides itself on buying "the best," everytime. *INSIST on ATLAS*—everytime—and you'll get the *best* life net!
ATLAS LIFE NETS



ATLAS SAFETY EQUIPMENT CO., INC.
27 WARREN ST. NEW YORK 7, N. Y.

BAR-WAY
HOSE COUPLINGS
FOR ¾" AND 1" BOOSTER AND HIGH PRESSURE FOG LINES

STREAMLINED
FULL FLOW
INTERNAL EXPANSION
ACCURATELY MACHINED
REMOUNTABLE

For maximum efficiency, economy and protection specify Bar-Way couplings attached to hose of proper size. Endorsed by leading hose manufacturers and demanded by more and more fire departments.
BAR-WAY MFG. CO., STAMFORD, CONN.
WEST COAST REPRESENTATIVE:
W. D. RIGDON
343 Russ Street, San Fra

Jet Tank

(*Continued from page* 528)

residents of the area, fortunately found no fire.

The containers, described as "tip-tanks," weigh about 1,000 pounds each when fully loaded. It is said they were about three-quarters full when they fell.

J. JEBENS

Diesel Pumper

(*Continued from page* 502)

of 2½" double jacket fire hose and 300 feet of 1½" leader line fire hose.

The pump is a Hale positive displacement geared rotary cam type, with a displacement of 1.634 GPR. A 100-gallon booster tank connected to the pump is equipped with a shut-off valve. Two hundred feet of one-inch hose with a shut-off valve is connected to the pump at all times and is carried on a reel in back of the seat over the booster tank.

The bare chassis weighs 11,000 pounds. With loaded tanks and all equipment in place, the unit weighs 17,995 pounds.

Delaware Chiefs Elect Officers

Clarence Shockley of Harrington, Del., was elected president for his second year at the annual meeting of the Delaware State Fire Chiefs Association, held at Rehoboth Beach, Del., June 18, 1949.

Other officers named to succeed themselves were: W. Herald Brittingham of Lewes, first vice-president; Harry Mahan of Holloway Terrace, second vice-president; Ralph Boyer of Dover, secretary, and Wm. A. Thompson of Wilmington, treasurer.

Thirty chiefs convened and discussed, among other things, the plans for the first annual fire school scheduled for August 16, 17, 18 and 19, next. The convention closed with a dinner in Rehoboth's Avenue Banquet Hall.

Rhode Island Chiefs Elect

The newly elected officers of the Rhode Island Fire Chiefs Club are: Chief Otto J. Alletag, Warren, president; Chief Arthur Woolhouse, Norwood, first vice-president; Chief Charles Murphy, Long Meadow, second vice-president; Chief Walter G. Ganz, Oaklawn, secretary-treasurer.

Rate $6 per inch less 10% for three or more consecutive insertions.

Classified Advertisements

Closing date for copy 25th of month preceding date of issue.

NEW CATALOG
WAR SURPLUS EQUIPMENT

Our 1949 SPRING CATALOG came off the press April 1st. If you have not received your free copy, write us at once.

Contains over 100 Unused Surplus Fire Fighting Items at prices but a small fraction of normal replacement cost. Quality merchandise at unbelievable prices.

FIRE HOSE—RUBBER HOSE—FIRE AXES—EXTINGUISHERS — FOG NOZZLES — FOAM EQUIPMENT — BREATHING APPARATUS — SIAMESE VALVES — SHUT-OFFS — PUMPS — STRETCHERS — SIRENS — SPOTLIGHTS — TOOLS — PLAYPIPES — BRASS FITTINGS

— and many other items at prices as low as 25% of normal list.

HALPRIN SUPPLY CO.
"THE" Dealer in Surplus Fire Equipment
837 East 4th Place, Los Angeles 13, Cal.

FOR SALE

HIGH PRESSURE FOG FIRE TRUCK

Excellent condition both mechanically and in appearance. Equipped with high pressure Bean pump and equipment, including a 500 gal. tank. Factory mounted on 1945 International 4-wheel drive truck. Complete with two reels of high pressure hose, fog guns, oxygen outfit, etc. We bought this complete outfit from the Government at a cost of nearly $5000; we understand that it cost the Government over $10,000. As we are closing our lumber mill, we no longer have use for it. We will sacrifice it for $3500, and it is an excellent buy at that price.

FLETCHER LUMBER COMPANY
Milford, New Hampshire
Phone-642

TANK TRUCK
(Demonstrator)

Chance for a fire company to save themselves some money on a practically new modern tank truck fire fighter. SPECIFICATIONS: Built on standard Ford chassis (2 ton)—800 gallon water tank—90 gallon foam truck 200 G.P.M. Champion pump on power take-off—200 ft. one inch hose—hose rack—2½ inch suction and discharge —guaranteed in perfect shape—write, wire or phone—

H & H TRUCK TANK CO., INC.
725 Tonnele Avenue
Jersey City, N. J.

POSITION WANTED
IN PLANT PROTECTION
SAFETY—FIRE—POLICE

Age 47: 21 years experience in Fire Dept. work (Volunteer) town of 2000, serving past 10 years as Capt. and Asst. Chief of Dept. and Life Squad. Past 6 years as Chief Fire Protection, one of country's largest distilling and pharmaceutical plants. Holds Certificate from Indiana Fire Service Training School Engineering Extension Dept. Purdue Univ. Certificate in Industrial Safety Engineering Univ. of Cinti. (War Training Program U. S. Office of Education). Member American Society of Safety Engineers, International Assn. of Fire Chiefs, Indiana Fire Chiefs Assn., Indiana Inspectors Assn., Kentucky Distillers Safety Assn., Past Pres. and Past Secy. Ohio & Indiana Fire Fighters Assn., Ohio Magistrates Assn., Dearborn County Indiana Police Assn. Have attended Arson Seminars at Purdue Univ. Some police work and training. Subscriber to Fire Engineering and Firemen. Can give A-1 reference. State location and salary. Write to Box 75, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

EMERGENCY RESCUE BUS

For fast and proper transportation of sick or injured. Nearly new 1948 Chevrolet-Wayne Emergency Rescue Bus. 161 inch wheel base, bus chassis has shocks, large motor, 7.50 x 20 tires and only 4000 miles. All metal Wayne Bus Body is 17 ft. long, 91 inches wide inside and 68 inches high. Will accommodate 6 stretcher cases and squad of 5. Special compartments with outside doors for generator and flood lights. Spacious inside cabinet work. Painted and ready to go into service.

BADGER BODY MFG. CO.
2719 Cuming Street
Omaha, Nebraska

FOR SALE

One city service truck, 1929 Combination Ladder Co., Maker, Larrabee chassis, Continental 6-B motor, 6 cyls. 3¾ x 5. Brown-Lipe Trans., spicer rear end, etc., 309 ft. ladder in fair condition, 40 gal. booster tank operated by CO_2, pike poles and other misc. equipment. Truck in excellent condition but needs paint. Price reasonable.

DARIEN FIRE DEPT.
Darien, Conn.

WANT TO BUY

USED LADDER TRUCK

Either straight city service or manually operated aerial.

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Elkhart Lake, Wisconsin

WANTED

Fire Equipment Dealers to sell Morning Pride Rubber and Canvas Rubber Fabric Fire Coats and Fire Pants, All Wool Detachable Liner, Mitts and Suspenders.

Write today MORNING PRIDE MFG. CO., 1986 Home Ave., Dayton 7, Ohio.

EASTMAN-EVACUATORS

$10.00 Shipping Charge Allowance

75 Ft. Aerial Ladder Model	$497.50
*65 Ft. Aerial Ladder Model	$435.00
50 Ft. Ground Ladder Model	$325.00
*50 Ft. Ground Ladder Model	$325.00

*Demonstrator—but same as new.

BIG HORN SUPPLY, INC.
Phone 91760 P.O. Box 1493
Billings, Montana

WANTED

Dealer—Distributors to sell fire apparatus manufactured by well-known Factory. Also popular line of high grade fire hose. Prompt Delivery. Attractive proposition. Address Box 15, c/o FIRE ENGINEERING, 24 West 40th St., New York 18, N. Y.

FOR SALE

1933 Indiana pumper equipped with 400 g.p.m. Barton American front mount pump, 220 gal. booster tank, 150 ft. of booster hose and reel. New siren and lights, 4 wheel brakes, good tires. Apparatus in excellent condition.

H. H. PUSEY, CHIEF
AVONDALE FIRE CO.
AVONDALE, PENNA.

FOR SALE

New

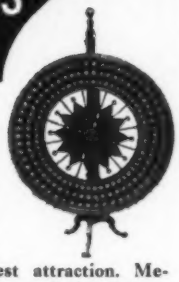
3—Gated Water Thiefs, chrome trim, 2½ x 1½ x 2½ x 1½ NST $89.50.

and

Leaderline Siamese, 2½ x 1½ x 1½, chrome trim, NST $27.50 ea.

DORAY FIRE EQUIPMENT CO.
1924 Valley Drive, Syracuse 7, N. Y.

OWN YOUR EQUIPMENT AND MAKE YOUR FUND RAISING CAMPAIGNS MORE SUCCESSFUL!



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Questions and Answers for Lieutenant and Captain—$2.50

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New York 18, N. Y.

Convention Dates

July 25—EGYPTIAN FIRE FIGHTERS ASSOCIATION. Regular meeting, Salem, Ill. Secretary, Victor L. Stocks, Centerville, Ill.

July 25-27—WISCONSIN STATE FIRE CHIEFS' ASSOCIATION. Annual meeting, Jefferson, Wis. Secretary, Crief Leo J. Girens, Fire Headquarters, Oshkosh, Wis.

July 25-28—WEST VIRGINIA FIRE SCHOOL. Annual meeting, West Virginia University, Morgantown, W. Va. Director R. E. Hanna, Jr., Fire Service Extension Schools, School of Mines, West Virginia University, Morgantown, W. Va.

Aug. 1-2—WISCONSIN PAID FIREMEN'S ASSOCIATION. Annual meeting, Kenosha, Wis. Secretary, John Kromel, 717 56th Street, Kenosha, Wis.

Aug. 3—NEBRASKA STATE ASSOCIATION OF FIRE FIGHTERS. Annual meeting, Lincoln, Neb. Secretary-Treasurer, Warren F. Kensinger, 302 South Pine, Grand Island, Neb.

Aug. 8-12—PENNSYLVANIA FIRE SCHOOL. Annual meeting, Lewiston, Pa. Director, Edgar A. Spotz, Department of Public Instruction, Harrisburg, Pa.

Aug. 12-13—VERMONT FIREMEN'S ASSOCIATION. Annual meeting, Windsor, Vt. For information, contact Acting Chief Richard C. Holmes, Windsor, Vt., Fire Department.

Aug. 16-17—NEW YORK STATE FIREMEN'S ASSOCIATION. Annual meeting, Albany, N. Y.

Aug. 16-19—DELAWARE SHORT COURSE. Annual meeting, University of Delaware, Newark, Dela. Chief James W. Just, conducting.

Aug. 17-19—INDIANA FIREMEN'S ASSOCIATION. Annual meeting, Lafayette, Ind. Secretary, Dee L. Corbin, P. O. Box 95, Bedford, Ind.

Aug. 19-20—CONNECTICUT STATE FIREMEN'S ASSOCIATION. Annual meeting and field day, West Haven, Conn. Publicity Chairman, V. W. Lee, P. O. Box 204, West Haven 16, Conn.

Aug. 20—BALTIMORE COUNTY VOLUNTEER FIRMEN'S ASSOCIATION. Annual meeting, Maryland Line, Md. Secretary, W. A. Chenoweth, 4104 Milford Mill Road, Pikesville 8, Md.

Aug. 25-27—COLORADO STATE FIREMEN'S ASSOCIATION. Annual convention, tournament and fire school, Idaho Springs, Colo. Secretary, Arthur J. Becker, 4250 Stuart Street, Denver 12, Colo.

Aug. 29-Sept. 1—DOMINION ASSOCIATION OF FIRE CHIEFS. Annual meeting, Ottawa, Ont. Secretary, Chief Allan H. Clark, Fire Headquarters, Lakefield, Ont.

Sept. 6-8—KENTUCKY FIREMEN'S ASSOCIATION. Annual meeting, Covington, Ky. Secretary, Captain V. A. Beam, 818 Sutcliff Avenue, Louisville, Ky.

Sept. 6-9—MARYLAND SHORT COURSE. Annual meeting, University of Maryland, College Park, Md. Director, Chief J. W. Just, Fire Service Extension, College of Engineering, University of Maryland, College Park, Md.

Sept. 8-10—OHIO STATE FIRE CHIEFS ASSOCIATION. Annual meeting, Dayton, Ohio. Secretary, Assistant Chief Rosche, c/o Fire Department, Canton, Ohio.

Sept. 12-16—VIRGINIA FIRE SCHOOL. Annual meeting, Roanoke, Va. Out of state visitors welcome. For information contact Clay A. Easterly, Director, 902 Travelers Building, Richmond 19, Va.

Sept. 20-21—IOWA STATE FIREMEN'S ASSOCIATION. Annual meeting and tournament, Spencer, Ia. Secretary, C. H. Fuchs, 2749 Kinsey Avenue, Des Moines, Ia.

Sept. 21—FIRE CHIEF'S EMERGENCY PLAN OF WESTCHESTER COUNTY. Monthly meeting, Pleasantville, N. Y. Secretary, Howard Geer, Rye, N. Y.

Sept. 26-29—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. Annual meeting, New Orleans, La. Secretary-Treasurer, Daniel B. Tierney, 8 Robbins Road, Arlington 74, Mass.

Oct. 4-6—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual meeting, Greensburg, Pa. Secretary, Charles E. Clark, Box 271, Wayne, Pa.

Oct. 10-13—INTERNATIONAL MUNICIPAL SIGNAL ASSOCIATION. Annual meeting, Pittsburgh, Pa. Secretary, Irvin Shulsinger, International Municipal Signal Association, 11 West 42nd Street, New York 18, N. Y.

Oct. 17-19—NEBRASKA STATE VOLUNTEER FIREMEN'S ASSOCIATION. Sixty-seventh annual meeting, Grand Island, Neb. Secretary, Russell D. Salak, Schuyler, Neb.

Oct. 24-28—NATIONAL SAFETY CONGRESS. Annual meeting and exposition, Chicago, Ill. General secretary, R. L. Forney, National Safety Council, 20 N. Wacker Drive, Chicago 6, Ill.

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(in a business you know)

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$84 A WEEK FROM 2 SALES A DAY

You can earn "extra" income easily, *in a business you already know*, by selling Randolph CO_2 Extinguishers to factories, homes, garages and hundreds of other prospects. Read our ad on page 522 and then write for the plan that's earning big money for firemen and fire officials all over the country. WRITE TODAY!

SEE PAGE 522

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RANDOLPH LABORATORIES, INC.

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INSIGNIA

Fire departments from coast to coast are being outfitted by Russell — completely and satisfactorily. You, too, will find our line of uniforms, caps, badges, shirts and accessories complete and that it will pay to have our catalog in your files.

Write for free catalog No. G-60, samples of materials and illustrated measurement form.

We also manufacture police uniforms. Write for police department catalog No. G-56.

RUSSELL UNIFORM CO.

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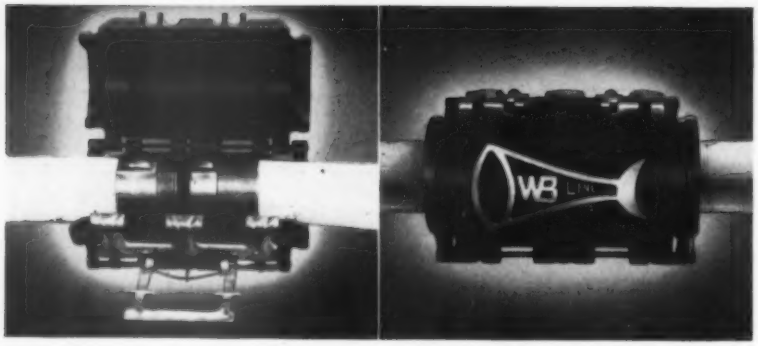

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Heavy duty spring lock construction and tough live rubber liners provide an absolute seal against water under pressure. Easy to use—invaluable in emergencies. See your Wooster Brass representative or write direct.

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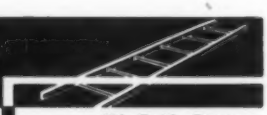
Your purchase of the best—of *original* Aluminum Ladders—is fully justified by their long service. Aluminum ladders won't splinter, rust, rot nor burn. Today, *original* Aluminum Ladders built 18 years ago are still in full, active service.

READY NOW — *Write for folder with photographs, specifications and prices covering our complete line of Light and Heavy Duty Fire Ladders.*

Aluminum Ladder Company



200 Carbis Street
Worthington, Pa.

ORIGINAL MANUFACTURERS OF ALUMINUM FIRE LADDERS

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JULY, 1949

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WELL DESIGNED

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VERY RELIABLE

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Makes FWD America's Foremost Heavy-Duty Truck

Here's actual operating proof in fire fighting service. This FWD Fire Engine—owned and operated by a municipality—is doing a regular rural fire-fighting job. It's driving through deep mud on the way to a burning farm house. Yes — the power and dependability you need to get to the scene are built right into every FWD Fire Engine. You can be sure of this — even before you buy. And here's why. FWD Fire Fighters are scientifically tested on FWD's proving ground to plow through mud and clay that reach up over the bumper. *No wonder FWD fire apparatus is used in fleets up to 50 units by America's leading cities!*

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1 Highball over hilly curved roads!
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3 Speed over 100-ft. unbanked circle!
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We invite you to watch FWDs pass a series of the most rigid performance tests. Ask your FWD distributor to arrange your visit to our plant. Or—if you can't get away, ask him to show you the movie, *The FWD Story*. In either case, you will see for yourself how FWDs can help solve your fire-fighting problems.

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